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# QUARTERLY REVIEW OF MILITARY LITERATURE

VOL. XII

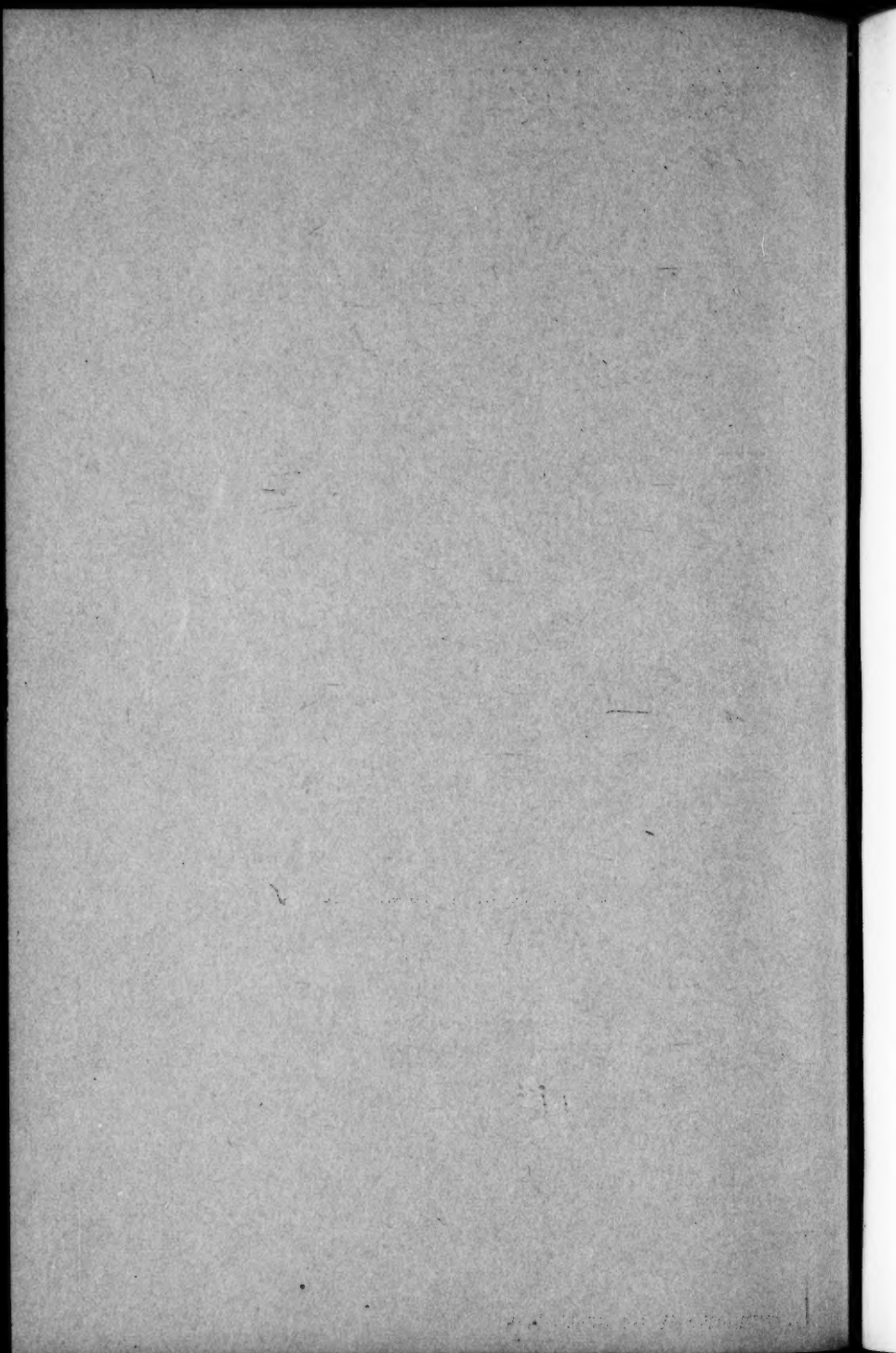
MARCH, 1933

No. 48



## CONTENTS

	Page
Defense during Retreat and Delaying Action.....	11
Frontages.....	15
Premature Employment of Army Reserve: Palestine, 1918.....	17
Notes on the Italian and French Maneuvers of 1932.....	17
Antiaircraft March Distances.....	19
Organic Cavalry of the Larger Units.....	28
Defensive Fire.....	28
Bacterial Warfare.....	39
Brussilov and His Riders in June 1916.....	42
Combat-Group "Schimpf" at Louvain.....	47
Combat Methods of a French Infantry Company.....	50
Command of the Sea or Command of the Air?.....	54
Dangers in Attachment of Artillery.....	62
Employment of Artillery of a Mobile Division.....	68
Engineers Cartridge Box.....	71
French Maneuvers in the Light of Existing Regulations.....	83
Modern Mobile Units.....	88
More Infantry.....	94
Russian Ideas on the Use of Modern Tanks.....	97
Withdrawal.....	100



VOLUME XII  
1932-1933

QRML  
Number 48

*U.S. Army service schools  
" Fort Leavenworth*

## Quarterly Review of Military Literature

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### FOREWORD

The object of this publication is a systematic review of current military literature, through cataloging articles of professional value, in selected military and naval periodicals, in the domestic and foreign field.

Articles from foreign periodicals are treated by translations of titles and digests of contents; material of particular importance is covered by more extensive translations in Section 3, "Abstracts of Foreign-language Articles."

Section 4, "Book Reviews," contains reviews of outstanding books, recently accessioned, which are of particular professional significance.

This material is published as a guide to modern military tendencies and to inspire vigorous thought on the subjects treated.

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## QUARTERLY REVIEW OF MILITARY LITERATURE

Major C.A. Willoughby, Editor

Volume XII

March, 1933

Number 48

### CONTENTS

	Page
<b>Section 1—DIRECTORY OF PERIODICALS.....</b>	<b>5</b>
A guide to Section 2 and Section 6.	
<b>Section 2—CATALOG OF SELECTED PERIODICAL ARTICLES.....</b>	<b>7</b>
A systematic review of the contents of selected military periodicals; the articles contained therein are listed in numerical sequence. In English language magazines, only titles are quoted. Foreign language periodicals are covered in greater detail; articles are digested to a degree to furnish an adequate idea of contents and significance.	
<b>Section 3—ABSTRACTS OF FOREIGN-LANGUAGE ARTICLES.....</b>	<b>39</b>
The entries from foreign-language magazines, in Section 2, include digests of the articles. This Section is designed to furnish translations or abstracts of the more important articles. Therefore, this Section is an extension of Section 2.	
<b>Section 4—BOOK REVIEWS.....</b>	<b>105</b>
<b>Section 5—LIBRARY BULLETIN .....</b>	<b>119</b>
Books added to Library since 1 December, 1932.	
<b>Section 6—SUBJECT INDEX.....</b>	<b>123</b>
All subject-headings are arranged in alphabetic sequence and can be consulted like a dictionary.	

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A—Foreign Language Periodicals  
B—English Language Periodicals  
C—Abstracts of Foreign Language Articles  
D—Foreign Language Book Reviews  
E—English Language Book Reviews

# Section 1

## DIRECTORY OF PERIODICALS

Included in this directory are only those periodicals from which articles have been selected.

An index number precedes the title of each periodical. This index number corresponds to the container in the Library Reading Room.

Index Number	Page
0—Intelligence Summary [War Department].....	7
4—Army and Navy Journal.....	7
5—Army and Navy Register.....	8
8—Army, Navy and Air Force Gazette (Great Britain).....	8
9—Army Ordnance.....	9
10—Army Quarterly (Great Britain).....	9
13—Bulletin Belge des Sciences Militaires (Belgium).....	9
14—Canadian Defence Quarterly (Canada).....	12
15—Cavalry Journal.....	12
16—Cavalry Journal (Great Britain).....	12
17—Cavalry School Mailing List.....	13
18—Chemical Warfare.....	13
19—Coast Artillery Journal.....	13
20—Field Artillery Journal.....	13
23—Infantry Journal.....	13
24—Infantry School Mailing List.....	13
25—Journal of the Royal Artillery (Great Britain).....	14
26—Journal of the Royal United Service Institution (Great Britain)....	14
27—Journal of the United Service Institution of India (Great Britain—India).....	14
28—Marine Corps Gazette.....	14
29—Militärwissenschaftliche Mitteilungen (Austria).....	14
30—Militär-Wochenblatt (Germany).....	15
31—Military Engineer.....	21
32—Military Surgeon.....	21
33—Naval Institute Proceedings.....	22
40—Quartermaster Review.....	22
45—Revista de Estudios Militares (Spain).....	22
46—Revista Militar (Argentina).....	23
47—Revue d'Artillerie (France).....	26
48—Revue de Cavalerie (France).....	27

51—Revue d'Infanterie (France).....	28
52—Revue Militaire Francaise (France).....	30
53—Royal Air Force Quarterly (Great Britain).....	32
54—Royal Engineers Journal (Great Britain).....	32
55—Royal Tank Corps Journal (Great Britain).....	32
56—Signal Corps Bulletin.....	32
59—Wissen und Wehr (Germany).....	32
60—Revista del Ejercito y de la Marina (Mexico).....	33
61—Esercito e Nazione (Italy).....	35
82—Current History.....	36
85—Foreign Affairs.....	36
86—Foreign Policy Association: Foreign Policy Reports.....	36
93—International Conciliation.....	37
102—Political Science Quarterly.....	37

## Section 2

### CATALOG OF SELECTED PERIODICAL ARTICLES

This section catalogs the articles selected from Library periodicals for the current quarter. To locate a particular periodical, consult the Directory (page 5). Periodicals in this Catalog are arranged numerically.

#### 0—Intelligence Summary (War Department)

13 JANUARY 1933

- (1) British Empire: The outlook for 1933
- (2) Germany: The trend of Germany's post-war government
- (3) Japan: The Manchurian question at Geneva

27 JANUARY 1933

- (4) Yugoslavia: Internal and international political situation
- (5) Spain: The second year of the Republic
- (6) Cuba: Political situation in Cuba

10 FEBRUARY 1933

- (7) Soviet Russia: The darker side of the Soviet picture
- (8) British Empire: Anglo-Persian relations
- (9) China: The Chinese domestic situation—its brighter side

24 FEBRUARY 1933

- (10) France: Recent cabinet crises
- (11) Germany: Hitler's chancellorship brings new period of political uncertainty
- (12) Nicaragua: Internal and international situation

10 MARCH 1933

- (13) Europe: The world economic conference—A preliminary estimate
- (14) Europe: The Little Entente
- (15) Japan: The League of Nations condemns Japan

24 MARCH 1933

- (16) Russia: The air forces of Soviet Russia
- (17) Germany: Reichstag and other elections strengthen Hitler's power
- (18) Latin America: Colombia-Peru: Leticia incident

#### 4—Army and Navy Journal

14 JANUARY 1933

- (1) Gambling in national defense securities. Admiral Pratt, USN

- (2) Committee cuts army estimates by \$4,651,253

28 JANUARY 1933

- (3) House adds pay cuts to army supply bill
- (4) American newspapers comment on Japanese-Chinese relations in Asia
- (5) Industrial management and central planning in U.S. Navy Yards. Commander Hanson

4 FEBRUARY 1933

- (6) Nation demands defeat of anti-service efforts
- (7) Army-Navy cooperation. (By Jarvis Butler, Secretary, The Joint Board)

11 FEBRUARY 1933

- (8) Shannon Committee urges Munitions Department
- (9) Senate group rejects pay cutting provisos
- (10) Service amendments voted in economy bill
- (11) The American Marines—today and tomorrow. Major General Fuller

18 FEBRUARY 1933

- (12) Consider economy provisions
- (13) Controversial service items up to conferees
- (14) Flying radio equipment. Lt. Commander Marron

25 FEBRUARY 1933

- (15) Economy bill may go over to next Congress
- (16) Development of Engineer officers. Major General Brown
- (17) Report on Navy bill

4 MARCH 1933

- (18) Economy bill passes continuing pay cuts
- (19) Command and General Staff class

11 MARCH 1933

- (20) USS Detroit awarded honors in 1932 SRBP

- (21) The economy act
- (22) President asks power to make pay slashes

18 MARCH 1933

- (23) New pay cut system effective on April 1
- (24) The United States Army
- (25) The U.S. Navy—The U.S. Marine Corps

25 MARCH 1933

- (26) Comptroller begins pay interpretations
- (27) Contributions of the Signal Corps to science. Major General Carr
- (28) Army vehicles

#### 5—Army and Navy Register

14 JANUARY 1933

- (1) Seventeenth military power
- (2) Will destroy Marine Corps
- (3) Army appropriation bill
- (4) Motorization of Field Artillery

28 JANUARY 1933

- (5) Army pay reduction
- (6) Army appropriation bill
- (7) New infantry drill
- (8) The Navy ration

4 FEBRUARY 1933

- (9) Denounces Taber and Connery amendments
- (10) Marine Corps must not perish
- (11) Plans for new War and Navy Departments made public

11 FEBRUARY 1933

- (12) Shannon Committee Report
- (13) Changes in economy law
- (14) Army appropriation bill
- (15) Income tax information

18 FEBRUARY 1933

- (16) The economy measure
- (17) Five per cent reduction
- (18) Army appropriation bill
- (19) Army Air Corps
- (20) The cross-country travel kit
- (21) Army shoulder rifle
- (22) Decadence of the Navy
- (23) Navy building data

25 FEBRUARY 1933

- (24) The economy measure
- (25) Naval appropriation bill
- (26) Service in the tropics

4 MARCH 1933

- (27) The economy measure
- (28) Naval appropriation bill
- (29) Army appropriation bill
- (30) Air Corps organization
- (31) Command and General Staff class

11 MARCH 1933

- (32) Army appropriation act
- (33) Economy law

18 MARCH 1933

- (34) Foreign service tours
- (35) Views of Director of Budget
- (36) Reduction of expenditures
- (37) Army at World's Fair
- (38) Military history foundation
- (39) The pay reduction
- (40) Changes in economy law

25 MARCH 1933

- (41) Beer and wine
- (42) Organization of naval forces

#### 8—Army, Navy and Air Force Gazette (Great Britain)

5 JANUARY 1933

- (1) The Gran Chaco War
- (2) The Japanese Army

12 JANUARY 1933

- (3) Chemical warfare
- (4) New warship contracts
- (5) Attack versus defence—A French view. (III)
- (6) Nelson's example. Admiral Kerr

19 JANUARY 1933

- (7) Russia to-day
- (8) Manchuria
- (9) Flying boat or aircraft-carrier? By "Cryptonym"

26 JANUARY 1933

- (10) The League and Manchuria
- (11) Other wars
- (12) Obsolete vessels
- (13) Army reorganisation in France

2 FEBRUARY 1933

- (14) Germany then and now. Parallels and contrasts between 1806-1814 and 1919-1932. (I) Walton
- (15) U.S.A. defence estimates

9 FEBRUARY 1933

- (16) Japanese suggestions rejected
- (17) Lord Allenby in Egypt
- (18) Attack versus defence—A French view. (IV)
- (19) Germany then and now. Parallels and contrasts between 1806-1814 and 1919-1932. (II) Walton

16 FEBRUARY 1933

- (20) Mechanisation
- (21) Germany then and now. Parallels and contrasts between 1806-1814 and 1919-1932. III—Reorganisation of Prussian Army and man-power. Walton

23 FEBRUARY 1933

- (22) Air attacks on warships
- (23) Philippine independence
- (24) Sir William Robertson. Colonel Beadon
- (25) Germany then and now. Parallels and contrasts between 1806-1814 and 1919-1932. IV—German Army and manpower after Versailles. Walton

2 MARCH 1933

- (26) The Japanese offensive
- (27) The arms embargo
- (28) The naval programme
- (29) French naval airship service
- (30) The fighting value of the Chinese soldier. Brigadier-General Bruce
- (31) Germany then and now. Parallels and contrasts between 1806-1814 and 1919-1932. V—Material, German means of action, military and diplomatic, economic. Walton

9 MARCH 1933

- (32) Germany as a battleground
- (33) Disarmament
- (34) The restless Pacific

9—Army Ordnance

JANUARY-FEBRUARY 1933

- (1) Ordnance reminiscences. The high purpose of the American effort for peace. Newton D. Baker (Secretary of War, 1916-1921)
- (2) The use of the machine in battle. General MacArthur
- (3) Artillery in the classical age. Major General Fuller
- (4) Armor versus bullets. Major Wilhelm
- (5) The permanent limitations of war. Captain Nickerson
- (6) The ballistic efficiency of guns. A great increase of velocity has been attained. Gerlich (Aberdeen Proving Ground tests confirm inventor's claims of greatly improved velocities, energies, and trajectories of small arms bullets without increase of maximum powder pressure.)
- (7) Maneuvers of the British tank brigade. Captain Liddell Hart
- (8) The munitions picture in detail. A method for stimulating industrial preparedness. Alex Dow (Chief, Detroit Ordnance District)
- (9) An embargo on arms
- (10) An exhaustive field artillery test
- (11) Doctor Gerlich's achievement
- (12) The army and citizenship
- (13) International debts and territory. (An editorial)

10—Army Quarterly (Great Britain)

JANUARY 1933

- (1) The defence of the British Empire, with special reference to the Far East and Australia. Colonel Lavarack
- (2) The war memories of Marshal Joffre
- (3) Military inventions: their antiquity and influence on war. Major-General Fuller
- (4) Mind and machine. Part I.—Tactical training in 1932. Captain Liddell Hart
- (5) The promotion problem: a suggested solution. Lieutenant Sheffield
- (6) The rebellion in Cyprus, 1931. Captain Freeman
- (7) A vindication of force. Colonel Beadon
- (8) The collapse of the Russian Army according to Trotsky. Burr
- (9) Halts in foot marches. By a G.S.O. of 1914
- (10) Gun versus small arm. The story of an age-long rivalry, and its moral. Major Pemberton
- (11) Les Carnets de Galiéni. [The diary of Gallieni.]
- (12) Armee und Marine bei der Eroberung der baltischen Inseln im Oktober, 1917. [Army and Navy at the conquest of the Baltic Islands in October, 1917.]

13—Bulletin Belge Des Sciences Militaires (Belgium)

By Lieutenant Colonel L.P. Horsfall

DECEMBER 1932

- (1) A propos du combat retardateur. [Delaying actions.] Lieut.-colonel Bouha & Capitaine Wanty
- Delaying actions are intended to hinder the march of an adversary who is superior in numbers; or, to cover the operations of, and secure the liberty of action for, another friendly force. The object is to gain time without becoming seriously engaged. One part of this article is devoted to a discussion of the German regulations on this subject, and the latter part gives a concrete map problem.
- (2) Un centenaire oublié: La Campagne des Dix Jours en 1831. [A forgotten centenary: The ten-day campaign of 1831.] Lieut.-colonel Verhaegen
- Final installment of an account of the Belgian-Dutch War of 1831.
- (3) L'Observation terrestre à l'A./C.A. [Terrestrial observation for corps artillery.] Lieut.-colonel Nonnon

In the July 1932 issue of this periodical, the same author made several proposals concerning observation of artillery fire. In this article, he discusses the reactions of other artillery officers after tests of the new methods; and draws the conclusion that it will save time and insure greater accuracy under certain conditions.

(4) Manoeuvre de défense passive contre l'agression aérienne du Pas-de-Calais. [Maneuvers to illustrate passive defense against air attack, held at Pas-de-Calais.] Capitaine Calberg

Extracts from the report of the author, who was attached to the staff of Marshal Petain, director of the maneuvers. The object of the maneuvers was to verify the efficacy of measures taken for the passive defense of civil populations and industrial areas. Camouflage was an important factor. Cooperation of the civil officials and the populace with the military authorities is essential for successful air defense.

(5) La sûreté en marche. [March security.]

A concrete map problem (with map) illustrating security on the march, and giving a detailed solution of the operations of the smaller units of the advance guard in a march toward the enemy.

#### JANUARY 1933

(6) Influence du théâtre d'opérations de Belgique au moment de la bataille de la Marne en Septembre 1914. [The influence of the Belgian theatre of operations during the period of the Battle of the Marne, September 1914.] Major Herbiet

An earlier article in the March to October 1928, issues of this periodical discussed the influence of Belgian operations upon the German right wing (First and Second Armies), during the Battle of the Marne (5-9 September 1914). The article in this issue extends the discussion to include the rest of the Western Front. On September 4, 1914, German G.H.Q. changed the initial plan from seeking a decision on their right wing, to similar attempts on their left wing, from Paris to the Vosges. The author points out that the German left wing was weakened, at this time, by the fact that a division of cavalry and two corps had to be diverted to the north, in order to cope with the situation in Belgium, in addition to forces already there (the German III and IX Reserve Corps and miscellaneous troops). This army (the German Seventh) was called

the "Army of Belgium," and was commanded by General von Heeringen. The author concludes, that in addition to the German troops held in Belgium during the time that the Germans sought an early decision, the expenditure of ammunition in reducing the defenses of Namur caused a lack of heavy artillery ammunition for effective action against the French fortresses.

The article is carefully annotated with references to sources, and a good map of the Belgian theater is inserted.

(7) Pages d'Histoire de l'Armée Belge au cours de la Guerre 1914-1918.—La Défense du Fort de Pontisse. [The defense of Fort Pontisse. Pages from the history of the Belgian army during the World War of 1914-1918.] Lieut.-colonel Speesen

Fort Pontisse was one of the twelve fortified positions at Liege. This article covers the defense of this position, 4-13 August 1914.

(8) Défense de retraite et action retardatrice. [Defense during retreat and delaying action.] (I) Colonel Van Egroo

In a series of articles, the author will give several historical examples of situations where the defender is too weak to attempt to hold a defensive position, but must cover withdrawal and obtain delay. Most of the historical examples will pertain to the World War, but the one in this installment concerns the Prussian campaign of 1815, in the vicinity of Charleroi. The author points valuable lessons that apply to defensive operations of this nature.

(9) Les Opérations militaires sur le front italien.—L'année 1915. [Operations on the Italian front, during the year 1915.] Capitaine Vandaele

This article is in the nature of a book review, and is based upon the Italian official history of the World War, of which Volume I is devoted to the situation at the beginning of the War, and Volume II is devoted to the operations of 1915. Among the conclusions drawn is the statement of the material effect that the Italian intervention had upon Austro-Hungarian operations against Russia. A map showing the initial situation on the Italian front is inserted.

(10) L'observation de l'A./D.I. [Terrestrial observation for the artillery of a division.] Major Sottiaux

Prior articles in this periodical by Lieut.-Colonel Nonnon proposed a new method of terrestrial observation for corps artillery. The author of this article proposes to apply the principles to ter-



restrial observation for the artillery of a division. The author concludes that the new methods would be especially useful in the defense of a position.

(11) Artillerie: Analyse critique de la méthode de tir par observation bilatérale et emploi du graphique anamorphosé. [A critical analysis of methods of fire control with bilateral observation, and the use of graphical solutions.] Bingen

(12) Graphiques de tir. [The graphics of fire control.] Lieutenant Letor.

(13) Intendance: D.S.S.I.: La Teinture des draps militaires. [Supply: The color of military clothing.] (Translation of a study by Major ten Have of Holland)

# FEBRUARY 1933

(14) Défensive de Retraite et Action Retardatrice. [Defense during retreat and delaying action.] (II) Colonel Van Egroo

This is the second of a series of articles on defensive tactics. This installment presents several examples, as follows: The Belgians in August, 1914; The English at Mons, in August, 1914; The Germans in Lorraine, in 1914; The British Fifth Army, 21 March 1918; The French Sixth Army, 27 May 1918; The Belgian Army, in the spring of 1918; The Germans, 18 July 1918; and a map problem based on the defense of the southern Belgian frontier.

(15) Histoire de la Campagne 1914-1918 sur le front russe.—La Bataille de Galicie en août 1914. [The campaigns on the Russian front, 1914-1918.—The Battle of Galicia, in August 1914.] (I) General Golovine (Review of Russian text by Captain Nannan.)

General Nicholas Golovine commanded the 2d Guard Regiment of Light Cavalry at the beginning of the World War, and was Chief of Staff of the Russian armies in Rumania at the end of the war. In Volume I, he covered the early operations in East Prussia. This installment is a review of a portion of Volume II, and covers: The Russian plan of campaign; and the early operations of the Russian Fourth Army on the southwest front. Much of this is new historical data that has never been published before. These articles are to be continued.

(16) Etude d'un cas concret.—Un régiment d'infanterie à l'attaque d'avant-postes. [A map problem. A regiment of infantry in an attack against an enemy outpost position.] Lieut.-Colonel Bouha

This is a good problem in minor tactics.

(17) L'Observation terrestre à l'A./C. A. [Terrestrial observation for corps artillery.] Lieut.-Colonel Nonnon

This article continues the discussion and criticism of certain artillery observation methods proposed in the July and December 1932 issue of this magazine.

(18) La Méthode actuelle d'emploi de l'artillerie allemande. (Extrait de l'ouvrage: "L'artillerie dans l'offensive en guerre de position," par le Colonel Bruchmüller de l'armée allemande.) [Present German methods for the employment of artillery. Extracts from Colonel Bruchmüller's book: "Artillery in the offensive in position warfare."]

The German text of Colonel Bruchmüller's book has been translated into French by Major Brunet and Captain Aizier, of the French Army. This article gives extracts that cover: Measures based on World War methods; recent developments resulting from World War experience; and measures based on other experience. The opinions of Colonel Bruchmüller are well worthy of study; because he was one of the leading authorities on artillery matters during the World War, and he is recognized still as a master specialist on artillery questions. He was responsible for many innovations in the use of artillery at Riga, in September 1917, during the German offensive on the Somme, in March 1918, and at the Chemin des Dames, in May 1918. His book shows how present artillery doctrine rests upon the sound foundation of past experience.

# MARCH 1933

(19) Pages d'Histoire de l'Armée Belge au cours de la Guerre 1914-1918.—Un coup de main sur la tranchée d'Andriple et l'ouvrage 33 le 28 octobre 1917. [Pages from the history of the Belgian Army during the War, 1914-1918. Raids on the "Adrianople" and "Ouvrage 33" trenches, 28 October 1917.] Capitaine Wustefeld

The Belgians conducted a series of raids on German trenches along the Yser River, in order to cause the Germans to fear an offensive and to prevent the transfer of troops for operations against the French and British. The article gives the orders issued, and discusses their execution.

(20) Défensive de Retraite et Action Retardatrice. [Defense during retreat and delaying action.] (III) Colonel Van Egroo

This installment concludes a series of three articles on the subject of defensive action. The author compares the Belgian and German doctrine in the matter of retrograde movements.

(21) Un Régiment d'infanterie à l'attaque d'avant-postes.—Le rôle de l'artillerie.—Etude d'un cas concret. [Map problem: A regiment of infantry in an attack against enemy outposts. The role of the artillery.] Major Sottiaux

This article adds to and expands a map problem given in the February 1933 issue of this magazine; and discusses the corresponding action and mission of the artillery in support of the infantry. The author stresses the importance of artillery-infantry cooperation.

(22) Quelques détails de l'Instruction dans une Compagnie de Fusiliers. [Some details concerning the instruction of a rifle company.] Capitaine Leseul

An article on recruit training.

(23) Histoire de la Campagne 1914-1918 sur le front russe.—La Bataille de Galicie en août 1914. [The campaigns on the Russian front, 1914-1918. The battle of Galicia, in August, 1914.] (II) General Golovine

This installment describes the Battle of Galicia, which commenced 23 August 1914, as a meeting engagement, in the area generally northwest and southeast of Lemberg, between the Vistula and Bug Rivers. The units involved were the Russian Fourth, Fifth, Third, and Eighth Armies and the Austro-Hungarian Second, Third, Fourth, and First Armies. Each side surprised the right wing of the opposing force, with considerable effect upon the ensuing Battle of Lublin. Much new data is here made available for the study of operations on the Eastern Front.

(24) La Conférence Générale de Limitation et de Réduction des Armements.—Les armes chimique, incendiaire et bactérienne. [The general conference on the limitation and reduction of armaments. Chemical, incendiary, and bacterial warfare.] This article discusses the report of the technical committee on prohibiting the use in warfare of certain agencies, such as gas and bacteria. The committee concludes that it is manifestly impossible to prevent manufacture of, and experimentation with, any article that may be susceptible of a pacific as well as a military use.

(25) Manuel pour la formation du fantassin. [Infantry manual.] An extract from a new manual. The extract con-

sists of a number of questions and answers on the subject of organization of the ground by small infantry units.

#### 14—Canadian Defence Quarterly (Canada)

JANUARY 1933

- (1) The League and Manchuria
- (2) The rôle of infantry
- (3) Success in war
- (4) Soviet Russia, China and outer Mongolia
- (5) Jenghiz Khan: The last campaign. Flight Lieutenant Walker
- (6) Military education. Bridger
- (7) The Tirah campaign 1897-98. A retrospect. Lieutenant Mackenzie
- (8) The Lytton Report
- (9) The realities of disarmament. Right Hon. Baldwin
- (10) The cost of a new military coat: the fitting of the coat. Lieut.-Colonel Alexander
- (11) The rôle of the infantry. By "Infanteer"
- (12) Machine gun evolution. Lieutenant Ault

#### 15—Cavalry Journal

NOVEMBER-DECEMBER 1932

- (1) 56th Cavalry Brigade field maneuvers, 1932. Lieut. Colonel Swift
- (2) Chemicals—for and against the cavalry. Captain Fisher
- (3) Caterpillar or Scorpion? Lieut.-Colonel Stilwell
- (4) Vital factors in World War. "Ponocrates"
- (5) The real conflict at Shanghai: International law vs. tactics
- (6) Preserving combat effectiveness in the cavalry division—Exercise A, The Cavalry School, 1932-33
- (7) The Signal Corps photographic laboratory. Captain Notestein

JANUARY-FEBRUARY 1933

- (7) The horse in the 1932 Olympiad. Captain Good
- (8) Efficiency reports. Lieut.-Colonel Lentz
- (9) Bacterial warfare. Major Fox
- (10) The Browning light machine gun. Lieutenant Ruffner

#### 16—Cavalry Journal (Great Britain)

JANUARY 1933

- (1) The cavalry in France: March-April, 1918. Part IV. Lieut.-Colonel Preston
- (2) An eye for a horse. (I) Lieut.-Colonel Goldschmidt

(3) Some little known British commanders of the past. I. Lord Hill, 1772-1842. Captain Sheppard

(4) The approach-march of the cavalry. Part II. (Translated from "Wissen und Wehr")

(5) Cavalry battle honours. Part VI. Major Edwards

#### 17—Cavalry School Mailing List

15 MARCH 1933

- (1) Debunking Mar's newest toys
- (2) The motorized brigade
- (3) Possibilities of the tank
- (4) Caterpillar or Scorpion?
- (5) Modern developments in armor plate (light) and armor piercing ammunition
- (6) Exercise A, The Cavalry School, '32-33
- (7) The Ordnance record for 1932
- (8) The Navy Pacific maneuvers
- (9) The Japanese Army
- (10) How do you figure?
- (11) Mechanized cavalry and chemicals
- (12) Psychological aspects of Chemical Warfare
- (13) Military medicine men
- (14) Vital factors in World War
- (15) Rapid forced marches by cavalry

#### 18—Chemical Warfare

JANUARY 1933

- (1) Mechanized cavalry and chemicals
- (2) The machine gunner and chemical warfare
- (3) 301st Chemical Regiment
- (4) Psychological aspects of chemical warfare

#### 19—Coast Artillery Journal

NOVEMBER-DECEMBER 1932

- (1) Long range firings in Hawaii. Captain Lutes
- (2) The target practice of Battery C, 91st C.A. (PS). Captain Hennessy
- (3) The organization and training of the Territorial Army. Colonel Codrington
- (4) Are we weakening? or Simplicity vs. accuracy. Major Haw
- (5) Vital factors in World War. By "Ponocrates"
- (6) The Signal Corps photographic laboratory. Captain Notestein
- (7) The real conflict at Shanghai: international law vs. tactics
- (8) Field training of the 61st Coast Artillery (AA). Major Seaman
- (9) Coast Artillery mobility

JANUARY-FEBRUARY 1933

- (10) The air war and the home territory of Germany. Major Grosskreutz, German Army
- (11) Convoy operations. Captain de Camp and 1st Lieut. Morton
- (12) The defence of our coastal cities. Hung
- (13) The third line of defense. Major Muller
- (14) Bacterial warfare. Major Fox
- (15) Efficiency reports. Lieut.-Colonel Lentz

#### 20—Field Artillery Journal

JANUARY-FEBRUARY 1933

- (1) Rolling along with Reilly. Captain Ginsburgh
- (2) Field artillery and the low-flying attack. Major Hibbs
- (3) German medieval artillery. Colonel McCormick
- (4) The start of the Meuse-Argonne campaign. Colonel Lanza
- (5) French artillery doctrine. Major Wood

#### 23—Infantry Journal

JANUARY-FEBRUARY 1933

- (1) Efficiency reports. Lieut.-Colonel Lentz
- (2) Motors and infantry. Lieut.-Colonel White
- (3) Bacterial warfare. Major Fox
- (4) Putting punch into the C.M.T.C. campaign
- (5) Infantry in battle
- (6) Making combat practice more realistic and interesting. Lieutenant Sherman
- (7) The reserve officer in the Canal Zone. Captain Liddy
- (8) Khan Dhu. Lieutenant Merriweather
- (9) Life in Mindanao
- (10) The third line of defense. Major Muller
- (11) Jomini. Lieut.-Colonel Scammell
- (12) Tentative infantry drill regulations, 1932
- (13) Magnetic compass for tanks
- (14) Gas proofing of tanks
- (15) Experimental rolling kitchen
- (16) Cost of the National Guard
- (17) Reserve Notes

#### 24—Infantry School Mailing List

1932-33—VOLUME V

- (1) Infantry in battle—Orders
- (2) Infantry in battle—The Plan
- (3) Infantry problems

- (4) A case of motor ataxia
- (5) The tanks are coming
- (6) Tank problems
- (7) Message center operations
- (8) Brigade problem
- (9) Advance out of Belleau Woods and capture of Belleau by the Third Battalion 104th Infantry, July 18, 1918. Colonel Lewis (Personal experience monograph)

**25—Journal of the Royal Artillery**  
(Great Britain)

JANUARY 1933

- (1) Radio telephony and the artillery. Captain Murison
- (2) Artillery survey. Captain Learmont
- (3) Extracts from "The Conduct of War," by Marshal Ferdinand Foch. I. The Battle of Spichenen. (Translated by Captain Kernan)
- (4) In the ranks of the Bengal Horse Artillery. Lieut.-General MacMunn

**26—Journal of the Royal United Service Institution** (Great Britain)

FEBRUARY 1933

- (1) The auxiliary patrol in war. Captain Lecky
- (2) The work of the British Army in the Far East. Colonel Badham-Thornhill
- (3) Possible results had modern air reconnaissance existed in 1914. Major Waters
- (4) "The grasshoppers and the oaks." By a Flag Officer
- (5) Engineer intelligence. Lieut.-Colonel Everett
- (6) Food supply and mobility in the navy. Captain Murray
- (7) Infantry re-organization. Major Ashworth
- (8) The role of naval airships. Lieut.-Commander Settle
- (9) Two experimental machines. Brevet-Lieut.-Colonel Martel
- (10) The training of the mechanical transport driver. Captain Cooper
- (11) Gunnery and the naval battle. By "Trunnion"
- (12) The native problem in South Africa. Stuart
- (13) The Japanese Army. Lieut.-Colonel Marsden
- (14) The Disarmament Conference

**27—Journal of the United Service Institution of India** (Great Britain—India)

JANUARY 1933

- (1) The Disarmament Conference at Geneva, 1932. Major-General Brind
- (2) Bridge and battles. Lieut.-Colonel Wason
- (3) The world situation to-day. Captain Fuller
- (4) The battles of the Masurian Lakes.
- (II) Lieut.-General Golovine
- (5) Gas in New Delhi. By "Mouse"
- (6) The Iron Duke versus Corporal John. Major Pemberton
- (7) Impressions of collective training, Aldershot, 1932. Major Gibson
- (8) Maintenance of a cavalry brigade with mechanized transport. Captain Weeb
- (9) The new imperialism in Eastern Asia. Major Mullaly
- (10) Badges. By "Yusaf"

**28—Marine Corps Gazette**

FEBRUARY 1933

- (1) Franklin Delano Roosevelt
- (2) The Presidents and the Marines
- (3) The Marines return from Nicaragua
- (4) A naval expedition involving the landing of a marine expeditionary force. Colonel Miller
- (5) The second Nicaraguan campaign. Major Gray
- (6) The Quartermaster's Department. Lieut.-Colonel Puryear, Jr.
- (7) "War in Nicaragua." Captain Brooks
- (8) The civic obligation of a military organization. Lieut.-Commander Knowlton
- (9) The annual bombing and gunnery matches. Captain Campbell
- (10) Publicity and propaganda. Major Schmidt

**29—Militärwissenschaftliche Mitteilungen** (Austria)

By Major A. Vollmer

JANUARY 1933

[NOTE: With its January 1933 number, the first of Vol. 64, this periodical changes from a bi-monthly to a monthly. General Emil Rattenhofer, Engineers, the Editor, states that this change has been made due to the prospect of arms equality for Germany, in the event of which the far-reaching changes in her system of National Defense will like-

wise necessitate an augmented contact by her military journals.]

(1) Studie über den öst-ung. Aufmarsch und Kriegsbeginn. [A study on the Austro-Hungarian concentration in the World War.] Oberst von Dragoni

(2) Brussilow und seine Reiter im Juni 1916. [Brussilov and his riders in June 1916.] (From Russian sources—with one sketch) (See also article in RCML No. 45, p. 41) (See translation, page 42)

(3) Die Entwicklung der öst-ung. Wehrmacht in den ersten zwei Kriegsjahren. [The development of the Austro-Hungarian defense in the first two years of war.] Major Franck

(4) Der Kampf um die Mandschurei. [The battle for Manchuria.] General Wiesinger

(5) Wehrpolitische Übersicht. [Summary of National Defense.]

### 30—*Militär-Wochenblatt* (Germany)

By Major A. Vollmer

18 OCTOBER 1932

(1) Das Recht auf Anpassung der deutschen Wehrmacht an das allgemeine Rüstungs-system. [The right of Germany to adjust her national defense to accord with the general armament situation.]

(2) Unsere einzige "Schuld." [Our only guilt.] (II) Generallutnant Marx

(3) Frontbreiten. [Frontages.] General v. Taysen

The World War has created new problems concerning frontages and depth of sectors by instituting new weapons and perfecting old ones. The French have exploited this field to the greatest extent. In this connection the study of General Brossé (*Les fronts de Combat*, Paris, 1932. Berger-Levrault) is of special interest. Its basis is that of the French regulations on this matter, namely that the improved light machine gun (which has the same effect up to 1200 meters as the heavy machine gun) now makes possible a considerable extension of front. So now in the last years we are witnessing exercises in the French Army in which the troops operate on greatly extended fronts. In the 1930 maneuvers, divisions occupied fronts of 25 km (15½ mi.). Brossé believes firmly that there is an advantage in this: the possibility of thereby constituting strategic reserves. But he points out that there are certain limits.

The remainder of this article is a digest of Brossé's book, and is divided

into frontages in defense and in attack, and conclusions. Brossé has presented the subject matter under the same title in the March 1932 number of "Revue Militaire Française" which was extensively abstracted in RCML No. 45, page 56.

(4) Das deutsche Asienkorps. [The German Asiatic Corps.] An account of the organization, equipment, and activities of the German Expeditionary Corps Pasha II, later called Asia Corps which was set up under Gen. von Falkenhayn in May 1917.

(5) Technischer Rundblick. [Technical survey.] Oberst Blümner

(6) Die Bedeutung der Brandwaffe im Luftkrieg. [The importance of incendiaries in aerial warfare.] Hauptmann Rumpf

The writer, an incendiary engineer, is the author of the book "Incendiary Bombs: a contribution to the problem of aerial security." He submits that the subject of incendiary bombs had not secured the attention it deserves. The international conventions have concerned themselves with explosive bombs and gas to the neglect of incendiaries. Not until the last meeting at Geneva was it recognized that the incendiary bomb represents in the first instance a great danger for civilian populations.

The author has dealt with this subject for years and has learned of but three contributions to literature thereon, viz.: Fries and West "Chemical Warfare," N.Y., 1921; C.B. Ray "Incendiaries in Modern Warfare," in the *Journal of Industr. & Eng. Chemistry*, N.Y., 1921; and Dr. R. Hanslian, "Military Incendiarism," *Art. Rundschau*, 1927/4.

He points out that one of the consequences of the neglect of this field is that no development of adequate defense has occurred and no extensive critical literature has arisen.

(7) Taktische Aufgabe 1. [Tactical exercise No. 1.] Part II.

25 OCTOBER 1932

(8) Rückzug. [Withdrawal.] (See abstract, page 100)

(9) Erfahrungen einer Radfahrer-Kompanie im Felde. [Experiences of a Cyclist Company Commander in the field.] An account of the service in 1914 and 1915 of an independent German Cyclist Company.

(10) Persönlichkeit und Masse im Zukunftskrieg. [Man and matériel in future warfare.]

An advance account of a book by Kurt Hesse to be published by E.S. Mittler, entitled: "Personality and Mass in the War of the Future; a discussion by younger officers on the war and its psychological problems." The author is the spokesman of this group. His book is to consist of the discussions he has sought on this subject.

(11) Organisation des Militärsports. [Organization of military sports.]

(12) Selbsterziehung zur Wehrhaftigkeit. [Self-training in military preparedness.]

(13) Taktische Aufgabe 1. [Tactical exercise No. 1.] Part III. Solution of Part II. Attack with limited objectives.

#### 4 NOVEMBER 1932

(14) Der Wiederbeginn der Abrüstungskonferenz. [The recommencement of the Disarmament Conference.]

(15) Neuzeitige Führung. [Modern leadership.] (I) A plea that limits be set to the increase of specialization and the taking of combatants for technical and staff purposes. The author recognizes the modern tide of specialization and complexity of matériel and personnel and would not try to stem this tide. However, he points out that use is often made of the modern machine aids to war, such as radio, which does not advance their purpose; and he would substitute greater activity on the part of the leader himself for the present tendency of augmentation of staff personnel.

(16) Kurzausbildung am s. MG. [Quick training in the heavy machine gun.] (I)

(17) Luftfahrt-Rundschau. [Aerial survey.]

(18) Zur Geschichte der militärischen Jugendausbildung. [The history of military training of youth.]

(19) Stand der Zivilversorgung. [Status of the Civil Service.]

(20) Aus der Werkstatt der Truppe: Leistungssteigerung der Zugpferde. [From the workshop of the troops: Draft horses.]

(21) Taktische Aufgabe 1. [Tactical exercise No. 1.] Part IV. Solution of Part III. Orders of the 6th Division for the attack with limited objectives.

#### 11 NOVEMBER 1932

(22) Die grossen französischen Manöver. [The great French maneuvers, September 1932.] This year these were called "combat exercises of all arms," and attaches thus did not have to be,

and were not invited. Furthermore, publicity during the Disarmament Conference was avoided. Great secrecy was maintained, but newspaper accounts give some idea of the exercises. These accounts, as repeated in the German Journal, do not have the usual military value as they consist of a narrative from a civilian standpoint, barren of conclusions and observations. The purpose was to find an improved type of division inasmuch as the French are dissatisfied with its present organization. The employment of a mechanized division against non-mechanized forces was involved. There were two phases. In the first, a mechanized infantry division, and in the second a partially mechanized cavalry division was opposed to a normal infantry division. The supply services were not fully represented. The mechanized division occupied 6 to 7 miles of road space. Tanks and infantry were carried in trucks, wheeled field guns on trailers pulled by tractors, animals in open trucks, officers and cyclists with their cycles in automobiles. There were no striking new types of transport. The French are obviously handicapped by lack of money.

(23) Neuzeitige Führung. [Modern leadership.] (II) Contents of orders: Principles. A conclusion of article begun in 4 November issue. This is a discussion or rather reiteration of the elements of combat orders.

(24) Schwere und leichte Strassenpanzerwagen in der Aufklärung. [Heavy and light armored cars in reconnaissance.] Oberleutnant Keppel

In a detailed consideration of the employment of each type of armored car both against forces of most modern armament and those armed as Germany is today, the author concludes that for reconnaissance the light type is by far the more preferable.

(25) Kurzausbildung am s. MG. [Quick training in the heavy machine gun.] (II)

(26) Splitter zur Abrüstungsfrage. [The question of disarmament.]

(27) Taktische Aufgabe 2. [Tactical exercise No. 2.] Part I. Requirement: Estimate of situation, orders and measures taken.

#### 18 NOVEMBER 1932

(28) Mehr Infanterie! [More infantry.] (See abstract, page 94)

(29) Zur Frage des Sturzbombers. [The question of bomb diving.] A discussion of technique and ballistics.



(30) Reitertaktik unter Dschingis Chan. [Cavalry tactics under Genghis Khan.] In view of the present effort in all armies to create suitable cavalry the author deems that a consideration of Genghis Khan's tactics (1155-1227) is of value. However the material which he adduces has been taken from "Genghis Khan: The Emperor of Men," by Harold Lamb, available in Library under Class No. M 9517-B92.

(31) Taktische Aufgabe 2. [Tactical exercise No. 2.] Solution of Part I. Estimate of the situation. Part II. Instructions issued by the Chief of Staff and preliminary orders given.

(32) Europas Volksüberschuss wird immer geringer. [Dwindling population in Europe.]

# 25 NOVEMBER 1932

(33) Das neue englische Abrüstungsprogramm. [The new British disarmament program.]

(34) Verfrühter Einsatz der Heeresreserven. Die Palästinaschlacht 1918. [Premature employment of army reserve: Palestine, 1918.]

A short narrative of the events (as the Turko-German forces saw them) of the British breakthrough in Palestine, commencing 19 Sept. 1918, with special reference to the German forces, the so-called Asiatic Corps. The disintegration of the Turkish forces is noted. The narrative presents nothing new.

The title refers to the German "Asiatic Corps," Col. von Frankenberg commanding (Battalions 702 and 703), which was withdrawn from the front at the end of May 1918 to act as Army reserve, Turkish Eighth Army. Then this plan was changed, and the Asiatic Corps was employed in the Seventh Turkish Army in order to take the British Msallabe positions north of Jericho in cooperation with Turkish regiments. The German forces over-ran the British front line, but the adjacent Turkish units made no progress. Thus the German forces were caught in an enveloping counterattack, and thrown back, suffering many casualties. Its 703d Battalion had remaining only 14 officers, 36 riflemen, and 32 machine gunners after this disaster.

It was a case of sacrificing this small and only effective contingent in an unimportant mission. Thus when it could have rendered very valuable service at the beginning of September as Eighth Army reserve it was no longer available.

(35) Das schwere Selbstladegewehr

Oerlikon. [The Oerlikon heavy 2 cm automatic rifle.] An account of the new antitank weapon, Swiss Army, for use by the infantry of the front line.

(36) Feuerunterstützung und Feuerkampf der Einheitsgruppen. [Fire support and fire fight of the composite group.] A discussion of the project of improving the light machine gun by equipping it with a carriage, and its use by the composite squad of the German infantry instead of the heavy machine gun.

(37) Erfahrungen aus den italienischen und französischen Manövern 1932. [Notes on the Italian and French maneuvers of 1932.]

ITALY.—The new Italian truck (Autocaretta) with narrow tread (1.3 m.) acquitted itself admirably. It was used in the Umbrian hills for supply. The larger type ("over all wagon") with 6 wheels (comparable to the French "tous terrains") has met the expectations for use in infantry trains. Pack animals are still indispensable in the medium and high mountains.

The Italian method of artillery motorization (2 models, P. 26 and P. 30—Pavesi tractor on wheels) has met with great approval and is superior to the caterpillar type. It has also met with favor in Poland.

The introduction of the 6-wheel "over all wagon" for infantry transport will not supplant the Bersaglieri cyclist formations. The latter have again demonstrated the advantage of speed and better security from the air.

The attempts to create the ideal "rapid division" have made progress. It consists mainly of cavalry regiments, Bersaglieri cyclists, motorized artillery and tanks. It appears that the cavalry must be reduced in favor of the Bersaglieri and tanks in order to get greater combat strength.

The maneuvers served moreover for the study of the three following questions: (1) How to employ the artillery of the quick division; (2) How will a wholly or partially motorized column protect itself against airplanes; (3) In mountain warfare what is the best system of cooperation of infantry with artillery? Nothing has been published as to the results of these studies.

FRANCE.—The 75 and 155-mm guns are too heavy; they are too hard to bring into positions and their ammunition supply is almost impossible.

The modern motorized cavalry division can cover 100 to 150 km per day.

This is however, only possible when it is not held up by bridges unable to carry the vehicles. Then a 12 to 15 hour delay ensues to build a new bridge for which three times as much material is necessary as was the case with the former horse cavalry division.

The infantry division, made up as usual, and with only its trains and heavy artillery motorized, still stands out successfully against the motorized units and will be the basis of formation for a long time.

Aerial security of columns in daytime can be achieved by taking distances and use of motorized antiaircraft weapons (above all, large caliber machine guns on trucks, American style).

Ammunition supply for the infantry of modern armament has found no solution. Stress is laid on the need of mechanical armored transport which can get to the front line. A small lightly armored caterpillar truck of Carden Lloyd type (Chenille) was tried out.

(38) Taktische Aufgabe 2. [Tactical exercise No. 2.] Solution of Part II. (a) Recommendations of the Chief of Staff; (b) Orders based on these recommendations. Part III. Division orders.

#### 4 DECEMBER 1932

(39) Aufmarsch und erste Operationen des französischen Heeres im Weltkrieg. [Concentrations and first operations of the French Army in the World War.] (I) General von Kuhl (author of "The World War 1914-1918")

Part I of a review (account without comments) of Vol. I of Marshal Joffre's book: "Personal Memoirs."

(40) Französisches Überseeheer und Abrüstung. [French overseas forces and disarmament.]

(41) Die Selbsttätigkeit der Schützen im Gefecht. [Personal initiative of riflemen in combat.] A discussion of the old problem of discipline versus initiative in the training and activity of the individual rifleman.

(42) Geschwaderflug? [Air squadron operations.] A speculation as to the appearance of a future war in the air between two major powers.

(43) Von Scharnhorst zu Schlieffen. [From Scharnhorst to Schlieffen.] Generalleutnant Muff

A review of the book by that name by General v.Cohenhausen which has just appeared.

(44) Taktische Aufgabe 2. [Tactical exercise No. 2.] Solution of Part III. Division orders.

#### 11 DECEMBER 1932

(45) Neuzeitliche schnell bewegliche Verbände. [Modern mobile units.] (I) Oberstleutnant v.Faber du Faur. (See translation, page 88)

(46) Aufmarsch und erste Operationen des französischen Heeres im Weltkrieg. [Concentrations and first operations of the French Army in the World War.] (II) General von Kuhl

A continuation of the review of Joffre's "Personal Memoirs."

(47) Aufrüstung? [National defense.]

(48) Rückzug und Kampfmoral. [Withdrawal and morale.] A short article on the effect on morale of an order to withdraw.

(49) Maschinengewehr für Fliegerabwehr. [Machine guns as antiaircraft weapons.] A survey of ordnance developments in foreign armies in this field.

(50) Besprechung der taktischen Aufgaben 1 und 2. [Discussion of Tactical Exercises Nos. 1 and 2.]

#### 18 DECEMBER 1932

(51) Die französischen Manöver im Lichte bestehender Gefechtsvorschriften. [The French maneuvers in the light of existing regulations.] Chief interest is independent employment of armored cars and motorized units—a new departure for the French, believed to be very important according to this German opinion. (See translation, page 83)

(52) Neuzeitliche schnell bewegliche Verbände. [Modern mobile units.] (II) Oberstleutnant v.Faber du Faur. (See translation, page 88)

(53) Die Pariser Luftfahrtausstellung 1932. [The Parisian air exposition 1932.] Hauptmann Ritter

(54) Gefechtsgruppe Schimpf bei Löwen. [The combat group "Schimpf" at Louvain.] Oberleutnant Blecher. (See translation, page 47)

(55) Ein Kapitel neuzeitlicher Soldatenerziehung. [A chapter of modern soldier training.]

(56) Aus der Werkstatt der Truppe: Die Schusleistung des Gewehrs. [The effectiveness of the rifle.]

(57) Taktische Aufgabe 3. [Tactical Exercise No. 3.] Part I

#### 25 DECEMBER 1932

(58) Der Kampf um die Gleichberechtigung. [The battle for equality.] The author points out that, now that the Powers on December 12th declared for German equality as the starting point for future discussions at the Disarmament Conference, the German purpose



will be to achieve practical realization of Germany's right to national security.

(59) Gedanken über neuzeitliche Truppenreiterei. [Thoughts on modern equitation.] The author considers the system of remount training best suited to increase the endurance and hardness of the horse.

(60) Die Blutprobe. [The blood test.] An account of relative losses on the Western Front. Statements in Winston Churchill's "World Crisis, 1916-18" are questioned. Total German losses were 2/3 of those of the Allies. During periods of stability German losses were often only 1/3, demonstrating better individual training of the soldier. Replete with table showing casualties of Allied and German forces by years and campaigns.

(61) Die Franzosen in Marokko. [The French in Morocco.]

(62) Marsch mit Fliegerwirkungsabständen. [Antiaircraft march-distances.]

In the new "F.u.G." (Führung und Gefecht der Verbundenen Waffen)—Conduct and combat of the combined arms—official regulations German Army, of which new edition is in preparation, the first since 1923) there will doubtless be a general treatment of the march of combined arms during danger from aircraft.

It is awkward to have to specify in each order for the march of a division, or smaller unit of the combined arms, how the protection against aircraft is to be conducted and what distances are to be taken. To avoid lengthy instructions it has become the custom to say: "Large antiaircraft distances" or "small antiaircraft distances," knowing that these terms will mean the same definite thing to all.

The matter could be dealt with similarly in the new regulations (F.u.G.), for example they could say: "Small antiaircraft distances" means 100 meters distance between companies and similar units"; "Large antiaircraft distances" means 50 meters between platoons." Thereby a specific rule for combat orders would be laid down.

But such a rule has certain difficulties. Units comparable to a company have different lengths: Rifle Co., 100 m; MG Co., 200 m; Trench Mortar Co., 300 m; battery, 300 m; train 500 m; bridgetrain, 800 m. Thus columns up to 800 m. would be unbroken. This is as impracticable as it is to prescribe generally to suit each special case.

The difficulty could be obviated by the following rule: If antiaircraft distances

are ordered all march lengths (road spaces) will be doubled. The organization of the march with doubled road spaces will then devolve on the Battalion Commanders and those of separate units.

In this way the same goal will be reached but with a number of advantages. Each leader, since he knows best the characteristics of his unit, can elect the most advantageous organization. What that will be will not be prescribed but will be changed according to the situation, terrain, visibility, road conditions, etc. Other security expedients may be taken such as the insertion of machine gun platoons between rifle companies.

The march order for a column of combined arms will not be unnecessarily lengthened. Such a column in which each unit marches with a different organization is difficult to estimate as to composition and strength from the air. The staff officer of the entire command will know, without extensive calculation, how much road space is occupied when antiaircraft distances are ordered. Perhaps a more suitable and shorter word can be found for the terms now used meaning: antiaircraft distances (Fliegerwirkungsabstand; Fliegersicherungsabstand).

Another point which should be covered in the new regulations is that form of march which the French call "marche d'approche" and which in Germany has not yet attained a satisfactory term nor explanation. The expressions: "Flach-enmarsch," "Breitenmarsch," "Marsch in Breiter Form" (Broad march; march on a wide front) have not clarified the matter, for everyone understands them differently. Perhaps one could call it "Development." A column which spreads out in width and depth is obviously developed. The fact that the degree of spread increases with closer approach to the enemy, and that certain parts utilize initially the various roads of advance towards the enemy does not change this. Why make technical distinctions?

(63) Das Reichsheer im Jahre 1932. [The German Army 1932.]

(64) Aus der Werkstatt der Truppe: Noch einmal "Kleinkaliberschieszen." [From the workshop of the troops: Again small caliber firing.]

(65) Taktische Aufgabe 3. [Tactical exercise No. 3.] Part III. Solution of Part I.

4 JANUARY 1933

(66) Sparsame Organisation. [Economic organization.] A consideration of the organization of units in two's, three's, and four's. The author favors the last named, claiming for it greater flexibility in the proportion of troops in line and in reserve, as well as greater economy in staff.

(67) Gefahren der Begleitartillerie. [Dangers in attachment of artillery.] Two examples from the World War of the misuse of artillery placed under the orders of infantry commanders who not only prescribed missions but selected battery positions with dire results. (See abstract, page 62)

(68) Die franz'sische "Politik des Materials." [The French policy of material.] Deals with present increase of armament by the French—the pushing of eastern fortifications, accumulation of large reserves of ammunition, further development of air arm, and laying down of the Dunkerque.

(69) Luftfahrt-Rundschau. [Aerial survey.]

(70) Die polnische Nachrichtentruppe. [Polish signal troops.]

(71) Mechanisierung und Motorisierung. [Mechanization and motorization.] A discussion of the confusion of these terms. Mechanization should be taken to mean the replacement of man or horse power by machine, while motorization should indicate the employment of mechanical in place of animal transport.

(72) Wirtschaftsrüstung. [Industrial mobilization.] The provisions undertaken in the United States, England, and France in this field.

(73) Taktische Aufgabe 3. [Tactical exercise No. 3.] Part III

11 JANUARY 1933

(74) Wehrpolitische Übersicht. [Survey of national defense.] Deals principally with the little Entente—its army organizations and efforts to secure revision of the peace treaties. The situations in France, Czechoslovakia, Jugoslavia, Rumania, Hungary, Austria, Italy, and Switzerland are given.

(75) Französische Gedanken über den Zukunftskrieg. [French thoughts on future warfare.] Hauptmann Ritter

A review of a study by the French "General A." This has already been covered in a series of articles in English ("Army, Navy & Air Force Gazette," 20, 27 October 1932, 12 January and 9 February 1933).

(76) Massebildung im Luftkrieg. [Mass employment in aerial warfare.]

(77) Motorisierung und Kavallerie in Polen. [Motorization and cavalry in Poland.]

(78) Das Gitternetz auf neuzeitlichen militärischen Karten. [The grid system on modern military maps.]

(79) Taktische Aufgabe 3. [Tactical exercise No. 3.] Part IV. Solution of Part III.

18 JANUARY 1933

(80) Feindliches Durchzugsrecht durch Deutschland. [The right of enemy troops to traverse German territory.]

(81) Organisation und Kampfweise einer franz'sischen Kompanie. [Combat methods of a French infantry company.] (See abstract, page 50)

(82) Artillerieverwendung bei einer schnellen Division. [Employment of artillery of a mobile division.] (See abstract, page 68)

(83) Improvisierte Heere und Materialschlacht. [Improvised armies and warfare of matériel.] Oberstleutnant v.Armin

(84) Der amerikanische, englische und franz'sische Feldsanitätsdienst. [The Medical Service of America, England, and France.]

(85) Aus der Werkstatt der Truppe: Bekämpfung von Augenblickszielen mit dem leichten Minenwerfer. [From the workshop of the troops: Fleeting targets for the trench mortars.]

(86) Taktische Aufgabe 3. [Tactical exercise No. 3.] Solution of Part V.

25 JANUARY 1933

(87) Joffres Führung 1915-1916. [Joffre's leadership 1915-1916.] General v.Kuhl

A review of the second volume of Joffre's memoirs, covering the years 1915 and 1916. This volume discusses the Salonika expedition and the differences of opinion this caused. Concerning Verdun, Joffre reports much that is both interesting and new as well as in conflict with previous accounts. The reviewer credits Joffre with its success. Joffre gives the credit to Nivelle rather than Petain. During this same period Joffre persists in the Somme offensive for the summer of 1916, with the desire to make the French operations subsidiary to the British. His relief by Nivelle forestalled his plans; those of the latter were in turn forestalled by the withdrawal of the Germans to the Hindenburg line.

(88) Zusammenwirken von Artillerie und Infanterie. [Cooperation of artillery and infantry.]

Examples from 1914 of the action of the 6th FA of 11th German Division showing: value of quick initiative in engaging fleeting targets; successful bold handling in a meeting engagement; and avoidance of losses by rapid change of positions.

(89) Verfolgung! [Pursuit.] A general discussion. There have been few instances of a ruthless pursuit in military history. In the Great War there were: the German pursuit after the Masurian Lakes in 1914, the driving of the Serbian Army into Albania in 1915, and Palestine in 1918. The difficulties are inadequate preparation during the preceding battle, and the inertia of victory, leaving a force disinclined to do more. In the World War long battles made it difficult to decide when to pursue and the growth of the defensive power of weapons facilitated retreat. In the future the air arm will play a predominant part on account of its moral effect and as a means of distributing propaganda.

(90) Unterstellung der Flugabwehrartillerie. [Command of antiaircraft artillery.] An argument for placing this arm under the infantry rather than the artillery commander.

(91) Warum die "Sieger" ihre Kriegsschulden nicht bezahlen. [Why the victors do not pay their war debts.] Belgium will soon begin construction of forts at Pepinster and at Battioire which are to dominate the roads to Aix la Chapelle. For this work a sum of 250 Mill. Fr. has been appropriated.

France allocated great credits in 1932 to the War Ministry for matériel: 188,3 Mill. Fr. for artillery; 48, Mill. Fr. for engineers; 23,6 Mill. Fr. for powder factories. In expenditures for 1932, among others, were: weapons 185,6 Mill. Fr.; ammunition 723,2 Mill. Fr.; motor vehicles and fuel 205,6 Mill. Fr. ("Red Eagle")

(92) Zu den kommenden Verhandlungen in Genf. [The coming negotiations at Geneva.]

(93) Abrüstung und Minderheiten. [Disarmament and minorities.]

(94) Taktische Aufgabe 4. [Tactical exercise No. 4.] Part I

#### 4 FEBRUARY 1933

(95) An die Wehrmacht! [To the Army.] A valedictory by von Schleicher and a message by General von Blomberg, the new Reichswehrminister (visi-

tor at C. & G.S.S. in 1931) in which he dedicates himself to the maintenance of the German army as a non-partisan force along the lines pursued by his predecessors.

(96) Zum Geburtstage der Abrüstungskonferenz. [The birthday of the Disarmament Conference.]

(97) Der Kriegsadjutant. [The combat adjutant.] Generalmajor Preusser

(98) Jugendertüchtigung. [Training of youth.]

(99) Kritik an uns selbst. [Self-criticism.]

(100) Verjüngung — Überalterung. [Youth and age.]

(101) Dramatisierung der Marne-schlacht 1914. [Dramatization of the Battle of the Marne, 1914.]

(102) Luftfahrt-Rundschau. Aerial survey.] Hauptmann Ritter

(103) Aus der Werkstatt der Truppe: Munitionstaktik beim s.MG.-Zug. [From the workshop of the troops: Firing of heavy machine gun platoon.]

(104) Taktische Aufgabe 4. [Tactical exercise No. 4.] Part II

### 31—Military Engineer

MARCH-APRIL 1933

(1) The railways of Manchuria. Major Constant

(2) Signal Corps pigeons. Lieutenant Clarke

(3) Before the Mixed Claims Commission. Lieutenant Hicks, Jr.

(4) The Great Wall. Pratt

(5) The Battle of Fredericksburg. Captain Noxon

(6) Chemical agents of warfare. Captain Jackson

(7) The Army Industrial College. Major Lee

(8) The St. Lawrence waterway

(9) American military history

(10) The Regular Army

(11) The National Guard

### 32—Military Surgeon

FEBRUARY 1933

(1) The medical activities of the Panama Canal. Colonel Chamberlain

(2) What a dental officer ought to know when entering the service. Captain Dimas-Aruti

(3) The Medical Service in the War of 1812. IV. The Campaign of 1813. Lieut.-Colonel Duncan

(4) The United States government medical services

(5) Medical and military notes

MARCH 1933

- (6) Bacterial warfare. The use of biologic agents in warfare. Major Fox
- (7) Health conditions in the Philippine Islands. Major Lull
- (8) American military history. Major Benson
- (9) The Medical Service in the War of 1812. V. The Battle of Lake Erie. Lieut.-Colonel Duncan
- (10) War Department Notes: Health of the Army for the calendar year 1932 in the United States

33—Naval Institute Proceedings

DECEMBER 1932

- (1) The indefinite status of Shanghai. Lieutenant Anderson
- (2) The annual naval appropriation bill. Captain Potter
- (3) One dab of whitewash for Nelson. Zogbaum
- (4) The training of officers. Lieutenant Thompson
- (5) A naval war game and a formula. Pratt
- (6) The price of peace. Brownson
- (7) The conquest of the Baltic Islands
- (8) Limitation of armaments

JANUARY 1933

- (9) Tactics and command. Lieut.-Commander Talbot
- (10) Supervising Nicaraguan elections, 1928. Major McClellan
- (11) The earliest naval operations. Lieut.-Colonel Scammell
- (12) How we got our navy. Commander Frost
- (13) The suicide squadron. Gibson
- (14) Our naval policy
- (15) Should poison gas be legalized?
- (16) Vessels under construction, United States Navy—progress as of September 30, 1932

FEBRUARY 1933

- (17) Deciding the Shanghai War. Captain Colby
- (18) In the wake of war. Lieut.-Commander Talbot
- (19) Technique of organization. Lieut.-Commander Strong
- (20) The Navy: its contact with Congress. Lieut.-Commander Schmidt
- (21) Puleston, Churchill, and the Dardenelles
- (22) The state of the navy
- (23) New cruiser design
- (24) Great Britain: The Japanese naval proposals

MARCH 1933

- (25) Prologue in Manchuria. Lieutenant Wood
- (26) To the shores of Tripoli. Lieutenant Eller
- (27) Equalization: The muddle—and a remedy. Commander Court
- (28) Tactics of large aircraft forces. Lieut.-Commander Schoeffel
- (29) Building an effective naval reserve. Lieut.-Commander Forster
- (30) The present status of air navigation. Lieut.-Commander Weems
- (31) Scapa flow

40—Quartermaster Review

JANUARY-FEBRUARY 1933

- (1) Paper. (Prepared in the Office of the Quartermaster General)
- (2) The Punitive Expedition. Captain Porter
- (3) Happy landings. Brigadier General Bash
- (4) The affair at Wounded Knee. Lieutenant Shockley
- (5) Libyan Desert campaign. Captain Fitz Gerald

45—Revista De Estudios Militares (Spain)

By Captain W.F. Safford

NOVEMBER 1932

- (1) El Ejército ruso, según yo lo he visto. [The Russian Army as I have seen it.] Diaz

Very little is definitely known about the Soviet Army. The author gives certain information as to what he witnessed himself a year ago. (a) Discipline is absolute and indisputable. (The salute has not been abolished and while the difference between the officer and soldier is not as marked as under the Czarist régime, it still exists.) (b) Factories and the army are linked together. Service in both is compulsory. One is the extension of the other. (c) Factories are guarded day and night by troops. (d) Militarization does not stop with the factories, but extends to the entire population, including feminine sections.

- (2) Del Marruecos francés. Etapas y modalidades de su ocupación. [French Morocco. Stages and manner of its occupation.] Comandante de Villegas

(a) The geography of the country; (b) The historical antecedent (Rome, Portugal, Spain, France); (c) The genesis of the occupation (how France increased its "sphere of influence," at the expense of Spain); (d) The parenthesis

of the European War (1914-1918) (No further extension but no relinquishment of territory); (e) Later French action (Rebellions suppressed, colonization extended); (f) The troops and the methods of operating in the prologue and in the epilogue of the campaign ("Small packages" of mixed units: vacillation in operations at first but tenacious); (g) Conclusion (France has rounded out its African empire).

(3) Elenmascaramiento. [Camouflage.] Capitán Navacerrada

A general discussion of ways and means of camouflaging objects—but there are no rules; each case is distinct and factors such as surrounding terrain, season of the year, etc., must be considered.

(4) La defensa de costas y las fuerzas aéreas. [Costal defense and aerial forces.] Capitán Planell

The use of aerial forces and the rapid development of their possibilities cause the factors that enter into coast defense to be continually revised. The author exposes what he believes to be the most certain points of view with respect to Spain under the following headings: (a) Attacks on maritime fronts of naval bases; (b) Bombardments of important objectives without permanent defense; (c) Landings. Contains nothing new that is not already considered in the United States.

(5) Francia.—Ejercicios de conjunto. [France. Aerial maneuvers.]

(6) España: El problema aéreo en su aspecto defensivo. [Spain: The aerial problem in its defensive aspect.]

(7) España: Enlace moral y barrera móvil. [Spain: Moral liaison and rolling barrage.] Tte. Coronel Delgado

(8) France: Organización de las comunicaciones y abastecimientos en los ejércitos. [France: Organization of communications and supply in armies.]

(9) Inglaterra: Un proyector fijador de aviones. [England: A searchlight airplane spotter.]

(10) Italia: Las grandes maniobras militares del año 1932. [Italy: The great military maneuvers of 1932.]

(11) Polonia: Automóvil blindado para policía. [Poland: Police armored car.]

(12) Russia. Contingentes Rusos. [Russia: Russian contingents.]

#### DECEMBER 1932

(13) Generales de la Gran Guerra. Douglas Haig. [Generals of the Great War. Douglas Haig.] Teniente Coronel Castro

A brief biography and a description of Sir Douglas Haig.

(14) Noticia sobre la Escuela Superior de Guerra de Lima. [Notes on the Escuela Superior de Guerra of Lima.] Mayor Tamayo

Established by law of 23 January 1904, normally of two years, it was increased to a three-year course 12 July 1927. In twenty-eight years it has graduated 140 officers who have taken the places formerly occupied by a French Military Mission.

(15) Algunos preceptos del nuevo Manual de montana y de alpinismo militar del Ejército francés. [Some precepts from the new manual of the mountain and the military alpinist of the French army.] Comandante Ungria

Extracts from a new French manual which should prove valuable for mountain warfare. Includes: (1) Circulation in mountainous country; (2) Shelter; (3) Hygiene in mountain operations; (4) Alimentation.

(16) Alemania.—Las maniobras del Oder. [Germany: The maneuver of the Oder.]

Resumé of the German maneuvers of 19-22 September 1932.

#### 46—Revista Militar (Argentina)

By Captain W.F. Safford

#### NOVEMBER 1932

(1) La guerra aérea. [Aerial warfare.] Tenel. Manni J.J.

A very good, but elemental, discussion of the influence of aviation in war, written to make the Argentinians "air-minded." Discusses the doctrines of the Great Powers; historical antecedents; material probabilities of the aeroplane.

(2) Tema de táctica aplicada y formal. [Applied and formal tactical problem.] Mayor Menendez J.M.

A map problem, with a very complete discussion, for officers of all arms, as part of the course of preparation for officers who will enter the "Escuela de Guerra."

(3) Cuestiones de infanterie. [Infantry questions.] (1) Coronel Descalzo

(a) Duties of the infantry point and advance guard; (b) Light weight equipment. (The fundamental question is "to be sure that the mule can arrive with his load"; and the remark applies equally to the infantryman.)

(4) Descripción del puente sistema Montes. [Description of the Montes system bridge.] Tenel. Ing. Montes A.

Another of a series of articles that have been appearing regularly in this magazine. Should be of particular interest to the Corps of Engineers; especially bridges over deep gorges. Discussed under the following headings: (a) General characteristics (standard sections); (b) Types of bridges that may be constructed with this material (stocks accumulated in peace); (c) Fabrication, weight and cost; (d) Setting up, personnel necessary, time: (1) 9000 kgs. fixed support bridge; (2) 9000 kgs. floating support bridge; (3) 14000 kgs. bridge.

(5) Organización del servicio de comunicaciones operativas. [Organization of the service of operative communication.] (1) Tcnel. Gonzalez J.P.

A review of a book, on the same subject, by Captain Carlward, giving the experiences of Germany during the World War and indicating lessons to be learned therefrom on the organization of railroad lines and of telephone and telegraph lines. These matters received quite some study when the United States entered the war and considerably more since then.

(6) Lo que el oficial de infantería debe conocer de artillería. [What the infantry officer should know about artillery.] (1) Tte. Cuarenta J.C.

Installment of a series. This one treats of artillery observation. Very good but elemental and covered in all branch schools of the U.S. Army.

(7) Desde mi puesto de observación en París: La motorization. [From my observation post in Paris: Motorization.] (XVI) Mayor Fantini Pertiné

The present article is Part II of this series. The article gives the European views on the subject, particularly the French. Since Americans are the most motor-minded people in the world and speculatively, this subject has received quite a lot of study, together with foreign views, there is little, if anything, contained herein that is not already well known.

(8) El general Paz en la organización y en la dirección de la defensa del sitio de Montevideo. [General Paz in the organization and the direction of the defense in the siege of Montevideo.] Cap. de Frag. Yaben J.R.

Captain Yaben continues his interesting account of the details of the siege and the defense. As has previously been noted by the reviewer, considering the extremely difficult task, the obstacles to overcome, etc., General Paz was

evidently a troop-leader of first magnitude.

(9) Estudio sobre la organización, instalación y acción del apoyo de fuegos en el combate ofensivo del batallón. [Study on the organization, installation and action of fire support in the offensive combat of the battalion.] Jefe de Bat. Cazeilles, & Capitán Chavatte

An excellent article and of especial interest to officers of infantry and cavalry. More applicable, however, to a branch school than to the C. & G.S.S. Discussion under following headings: (1) Role of the battalion commander; (2) Role of the commander of the unit of fire support: (a) Distribution of missions, (b) Emplacement of units, (c) Organization of command, (d) Action of fire support: (1) Possibilities of material now in use: For artillery, for accompanying guns, for machine guns; (2) Manner of executing the fire; (3) Necessity of means of communication; (4) Necessity of topographic and observation apparatus; (5) Conduct of fire; (6) Possibility of observation. Conclusions: Importance of observation; Importance of indirect fire; Weakness of offensive armament of the battalion; Importance of the mission of the infantry officer. Annex: Personnel, matériel, communications.

(10) Las aplicaciones de la meteorología en las artes militares. [The applications of meteorology in the military arts.] (Translation from the French) Teniente Ahrens G..

Meteorology has played an important part in war and will continue to do so in the future. Climatology must be considered by the commander, particularly for expeditions outside the home country. The forecast of weather may affect tactical and strategical decisions. Above all, artillery fire is greatly influenced by weather; aviation is practically dependent upon the weather.

#### DECEMBER 1932

(11) La vida de las bocas de fuego (conferencia). [The life of firearms barrels.] Mayor Ing. Mil. Tenreiro Bravo M.M.

A rather lengthy but a well written and not too technical lecture on a somewhat dry subject.

(12) Problemas orgánicos. [Organic problems.] Mayor Anaya L.O.

Any nation which may have to participate in war must, at that time, mobilize all human forces, both male and female, irrespective of age, for direct



or indirect employment for a successful termination of the war. This is one of the requisites of modern war.

(13) Organización del servicio de comunicaciones operativas. [Organization of the service of operative communications.] (II) Tcnel. Gonzalez J.P.

Continuation of article. In this installment the telephone net is considered. This will, naturally, be based on the permanent installations, and expanded according to military needs.

(14) Cuestiones de infanteria. [Infantry questions.] (II) Coronel Descalzo

Continuation of series of articles. In this the author considers the noncommissioned officer. The points emphasized are well taken and the article is well worth the consideration of any company officer.

(15) Lo que el oficial de infanteria debe conocer de artilleria. [What the infantry officer should know about artillery.] (II) Tte. Cuarenta J.C.

Installment of a series. These articles are rather elementary and the subjects are covered in the branch schools of the U.S. Army. This article covers artillery-infantry liaison and communication between the two arms, the material therefor being taken largely from French and German sources. The conclusion is that a satisfactory solution has not yet been found.

(16) Trabajos de los pontoneros. [Work of the pontoneers.] Tcnel. Aleu W.

Comments upon the new (Argentine) regulations for ponton bridges and how to save time in the operations.

(17) Reflexiones referentes a la instruccion a cavallo. [Reflections with reference to mounted instruction.] (I) Capitán Gomez

First installment of a series of articles on practical instruction; written especially for junior officers and covering care of animals, and recruit instruction, mounted.

(18) Desde mi puesto de observación en Paris: La motorización. [From my observation post in Paris: Motorization.] (XVII) Mayor Fantini Pertiné

Continuation of series on motorization: observations on the tactics of motorized and mechanized formations. While some of the material for this installment is from French and German, the bulk is from United States sources.

(19) El general Paz en la organización y en la dirección de la defensa del sitio de Montevideo. [General Paz in the organization and direction of the

defense in the siege of Montevideo.] (II) Cap. de Frag. Yaben J.R.

In this installment Captain Yaben concludes his excellent study of these operations.

[NOTE: With this issue are two Annexes, each bound separately, containing the (1) address of the Secretary of War (Argentine) to the Colegio Militar, and (2) a treatise on cable carrier lines.]

# JANUARY 1933

(20) Medios terrestres de la defensa antiaérea (conferencia). [Terrestrial means of antiaircraft defense.] Mayor Checchi J.C.

The author is all excited from hearing of the "bogey-man" in the European press. While the menace from aviation and particularly the spraying of chemicals from airplanes cannot be denied, certainly aviation has a long ways to go before this continent need to be as alarmed as areas where every few miles one finds a different country. This is not meant to decry the really excellent article but it appears that many officers are taking the European situation without adaptation to their own country.

Chapter I.—The antiaircraft problem in general: The aerial danger and its influence on the physiognomy of war; What to do to protect oneself against the effects of enemy aviation; Characteristics of the aerial target; General review of the active means of terrestrial defense, or antiaircraft artillery.

Chapter II.—The technical organization of the fire against airplanes: The organization of the matériel according to fire; The fire of armament for interdicting low altitudes; The fire of AA guns is based on logical hypotheses; Centralized indirect fire.

Chapter III.—Antiaircraft artillery in the organization of terrestrial forces: Tendencies of the AA artillery organization; The influence of AA artillery on the development of aviation; Conclusion.

The article should be of particular interest to the Coast Artillery (AA).

(21) Organización del servicio de comunicaciones operativas. [Organization of the service of operative communications.] (III) Tcnel. Gonzalez J.P.

Third installment of a series. In this the author considers radio telegraphy. Inasmuch as the radio was in its infancy during the World War and great developments have been made in it since, the article is, necessarily, based on theory.

(22) Sobre el fundamento de los principios del reglaje. [On the fundamental of the principles of adjustment of fire.] Capitán Lonardi E.

Elementary field artillery: General remarks; Formation of the bracket; Verification of the bracket; Fire for verification.

(23) Médicos y militares. [Doctors and soldiers.] Cir. Rabellini Pizarro C.

A review of the excellent book "Médecins et Militaires" by the French Doctor, Paul Abram, recently translated into Spanish.

(24) Cuestiones de infantería. [Infantry questions—Instruction.] (III) Coronel Descalzo

Although this series is written especially for the Argentine Army, all articles are "common sense" and well worth reading by anyone who will ever have to handle troops.

(25) La guerra aeroquímica y las poblaciones civiles. [Aero-chemical warfare and civil populations.] Barbieri P:

Review of the book "La Guerre Aero-Chimique et les Populations Civiles" by Izar des Cilleuls Kermarrec. The book is a historical, clinical, therapeutic and preventive study and represents the latest thought in Europe on this subject.

(26) Desde mi puesto de observación en París: La motorización. [From my observation post in Paris: Motorization.] (XVIII) Tenel. Fantini Pertiné

In this installment the author applies the theories and experiments in other countries to his own—Argentina.

(27) Reflexiones referentes a la instrucción a caballo. [Reflections on mounted instruction.] (II) Capitán Gomez J.F.

Second installment. Pertains to recruit instruction and particularly to his own people but has many good points for consideration by troop officers of mounted branches of any army.

(28) Aeronáutica y antiaeronáutica. Las grandes maniobras aéreas de Italia. [Aircraft and antiaircraft. The great aerial maneuvers in Italy.] Balbas V.

A detailed account of the Italian aerial maneuvers of 1931. These maneuvers have been extensively commented upon in all countries. Of more than passing interest to the layman, they are of particular interest to air corps officers. However, there is much material on this subject available in all languages.

(29) La defensa de la brecha Kluck-Bülow por los cuerpos de caballería Marwitz y Richthofen. [The defense of the Kluck-Bülow gap by the cavalry

corps of Marwitz and Richthofen.] Tenel. Pugens

First installment of a translation from the French. This is available in C. & G.S.S. Library in original (French) published in "Revue de Cavalerie."

#### 47—Revue d'Artillerie (France)

By Lieutenant Colonel L.P. Horsfall

DECEMBER 1932

(1) La manoeuvre de la Marne. [The Marne maneuver.] (VI) Colonel Valarché

This installment continues the story of the First Battle of the Marne, and covers the action on the left wing of the allied armies, during the period: 25 August—1 September, 1914. The author concludes that the Battle of Guise prepared the way for the victory of the Marne.

(2) Un artilleur français improvisé a Constantinople, aux dix-huitième siècle, le baron de Tott. [Baron de Tott, a French artilleryman at Constantinople in the 18th Century.] (III) Laulan

This installment gives an account of the exploits of a French officer in Turkey, and some of his experiences in developing matériel and training personnel for the Turkish artillery.

(3) Nouvelle méthode de relèvement sur trois points. [A new method of calculating coordinates.] Lieutenant Hecquet

A mathematical discussion of a new method of determining a position location by calculations based on azimuth readings taken on three points whose coordinates are known.

(4) Notice nécrologique: le général Herr. [The death of General Herr.] Colonel Romain

General Herr, a prominent artilleryman, died 27 October 1932. General Petain's remarks are added to a short biographical sketch.

JANUARY 1933

(5) La manoeuvre de la Marne. [The Marne maneuver.] (VII) Colonel Valarché

This installment, one of a series of articles on the First Battle of the Marne, covers the pursuit of the French by the Germans, from the Aisne to the Marne, during the period: 1-3 September 1914. The decision of General Moltke and the decision of General Joffre are discussed also. This is an excellent exposition of this phase of the operation.

(6) Un artilleur français improvisé à Constantinople, au dix-huitième siècle, le baron de Tott. [Baron de Tott, a



French artilleryman at Constantinople in the 18th century.] (IV) Laulan

This installment concludes the series. The Baron could not secure full Turkish cooperation, and returned to France, after many interesting experiences.

(7) Projectiles automoteurs. [Self-propelled projectiles.] Lieut.-colonel Ardillon

The author reviews the use of rockets, and suggests that they have possibilities as a weapon.

(8) L'amélioration de l'efficacité du tir auson par rafales dans l'Artillerie antiaérienne. [Increasing the efficacy of antiaircraft fire directed by sound.] Chef d'escadron Worbe

The author suggests the use of volleys to serve as a sort of barrage for anti-aircraft fire at night, using listening devices for directing the fire.

(9) Danemark: La grenade à fusil Madsen. [Denmark: The Madsen projectile.] The Madsen Company in Denmark has produced a 51-mm round projectile which has a tail to give it stability in flight, and which is to be fired from a sort of blunder-buss like a trench mortar.

#### FEBRUARY 1933

(10) Les canons modernes de corps d'armée. [Modern weapons for corps artillery.] Général Challéat

This article discussed the essential requirements of power and mobility for corps artillery weapons. The author concludes that two calibres are desirable: one a 105-mm. gun with a range of ten miles, and the other a 130-mm. gun with a range of fourteen miles, each capable of an elevation of 45 degrees and a field of fire of 45 degrees. He recommends that similar 155-mm. guns with a range of sixteen miles be reserved for army artillery use. An annex gives empirical formulas to support the discussion. The same author discussed divisional artillery in the March 1932 issue of this magazine.

(11) La manoeuvre de la Marne. [The Marne maneuver.] (VIII) Colonel Valarché

This installment concludes the series of articles on the First Battle of the Marne, and covers the German pursuit during the period: 3-5 September 1914, and the French retreat during the period: 1-5 September 1914. General Joffre drew the Germans into a net, and then attacked them from the front, flank and rear.

(12) Une grande bataille d'artillerie, Castillon (17 juillet 1453). [A great artillery battle, Castillon, 17 July 1453.] Colonel Apffel

The Battle of Castillon terminated the Hundred Years War, and marked a complete change in French methods of warfare. Charles VII achieved a victory over the English with his new artillery weapons, which are described in this article.

(13) Il y a cent ans. L'intervention française en Belgique en 1832. Siège de la citadelle d'Anvers. [One hundred years ago. French intervention in Belgium, 1832. The siege of Antwerp.]

In 1830, the Belgians rebelled against the authority of Holland. Great Britain favored the newly created buffer state, and declared its perpetual neutrality. This was the "scrap of paper" that was torn up in 1914. France intervened against Holland in 1832. The article is based upon a French Lieutenant's letters to his sweetheart describing his experiences.

(14) Abaque universel pour le réglage par coups fusants hauts. [A chart for general use in high-burst ranging.] Lieutenant Lasserre

A technical discussion of a method of fire adjustment.

(15) Suisse: Fusil automatique lourd Oerlikon. [Switzerland: The Oerlikon 20-mm. automatic gun.] A review of an article in the "Militär-Wochenblatt" of 25 November 1932, describing a new weapon which is portable by hand. It is intended to be employed in the front line by infantry as an antitank gun, and is capable of firing forty rounds per minute.

#### 48—Revue de Cavalerie (France)

By Major N.B. Briscoe

#### NOVEMBER-DECEMBER 1932

(1) La défense de la brèche Kluck-Bülow par les corps de cavalerie Marwitz et Richthofen (6-9 septembre 1914). [The defense of the gap between Kluck and Bülow by the Cavalry Corps of Marwitz and Richthofen.] (IV) Lieut.-colonel Pugins

This is the subject of an individual research of the class of 1933 and will be published later.

(2) Moyens d'instruction du régiment. [Means of instruction of the regiment.] Colonel Toussan

The article describes the means used in regimental instruction:

A.—The Regimental Instruction Hall, with its maps, signal lines to tables for command posts, airplane suspended to move along a course, and sand tables with little electric lights to show observation posts, with arrangements to simulate artillery fire, with apparatus, to scale, for organization of the ground, with means, to scale, for crossing streams.

B.—Gallery practice—in full equipment—daily.

C.—Antiaircraft firing—one minute from view to shot.

D.—The cinema—particularly useful for instruction about equipment not present—armored cars, etc.

E.—Exercises on the ground—execution much improved by sand table instruction.

F.—The loud speaker—not employed, being developed.

A regimental commander with interest and energy, who invented some additional means for instruction. The photos give much more idea of the equipment than the text, which is very brief.

(3) L'élevage des chevaux en Tchécoslovaquie et en Suisse. [The breeding of horses in Czechoslovakia and Switzerland.] (II) de Choin du Double

The second of a series of articles on this interesting subject, but of no value to the Command and General Staff School.

(4) Essais sur la cavalerie organique des grandes unités. [Essays on the organic cavalry of the larger units.] (I) Capitaine Rumilly

This initiates a series of articles on this subject. The author discusses cavalry missions in general and considers the type and amount of cavalry needed by the infantry division and by the army corps. His discussion of the division cavalry is based on the division in the corps, not an independent division.

The missions of both the division and corps cavalries are the usual ones, but he limits the field of activity of the division cavalry in covering duty to the "visible horizon" of the infantry, and deduces that the division cavalry should be all "hippomobile" of the strength of two groups of squadrons (the organization and strength of one U.S. cavalry regiment, less one squadron).

The corps cavalry, however, he pictures as being all automobile and consisting of:

- 2 regiments of dragoons porté in cross-country vehicles (strength of each—1 U.S. regiment less one squadron)

- 1 regiment of 1 squadron of motorcyclists and 1 of armored cars (Reconnaissance regiment).

- 1 battalion of tractor-drawn light artillery.

Signal troops

Trains

Commanded by a general, at least brigadier, major-general preferable, with a proper staff.

(5) Marche-manoeuvre de la 3e division de cavalerie (8-10 septembre 1932). [March and maneuvers of the 3d Cavalry Division, 8-10 September 1932.]

Including the concentration and return to garrison, some units marched 260 kilometers in four days. The actual maneuvers consisted of 170 kilometers of marching, including crossing the Seine three times by military means, with combat on foot, defense against aerial attack, advance guards, outposts, and numerous night alerts. The whole affair was called a raid, and proved that the "horsed elements of the cavalry divisions can, without being unduly retarded, or even stopped by water courses, accomplish interesting raids across country. The performances effected by the cavalry divisions in 1918 when they acted to cover breaches in the front can then be easily repeated."

## 51—Revue d'Infanterie (France)

By Major R.C. Smith

NOVEMBER 1932

- (1) Feu défensif. [Defensive fire.] Lieutenant-colonel Hassler

This article continues the discussion of defensive fire begun last month. It is essentially from the viewpoint of the infantry commander. The general ideas accord with current American teaching. The author emphasizes flanking fire for machine guns with final protective lines that can be fired under any conditions of light or weather.

"The problem of the defense is essentially a problem of fire. The object is to seize the enemy at the greatest distance, to hold him there as long as possible by using the effective range of weapons and placing continuous belts of fire where and when needed. As the enemy approaches the fire becomes more dense and more continuous until, in front of the main line of resistance it becomes an impossible barrier."

The main position should be organized in depth so that any penetrations the enemy may make are tied down to a narrow front by fire from adjacent points.

The defensive fire strikes down part of the assailants, but most important, it disorganizes the attack.

The author discusses in some detail the organization of defensive barrages with automatic weapons.

The prime importance to the defense of securing and protecting observation is stressed. But all personnel must be trained in observation. It must not be the exclusive function of a small group.

The defense will very often be subjected to gas attacks; therefore training in operating in gas masks is quite as important as firing on the target range.

In conclusion, the author points out that the soldier will spend a great deal more time in the defense than in any other form of action because large sections of the front are bound to be held defensively if forces are concentrated for attack in other areas. Hence the defense merits greater attention in training than it often receives.

(2) La 5e division de Brandebourg au village de Douaumont (février-mars 1916). [The 5th Brandebourg Division at the village of Douaumont, February-March 1916.] (1) Capitaine Goutard

A study of an attack against a zone, or rather the continuation of the attack after the initial assault. The study is a detailed account, illustrated with good maps, based largely on the German official account.

(3) Allemagne: La nouvelle organisation de l'infanterie allemande. [Germany: New organization of German infantry.] The German infantry has adopted an organization within the platoon of a section of two squads, composed of riflemen and scouts. This is similar to the current French organization; corresponds to the doctrine, "The tactics of small units, if it is to exist, must be simple." The tendency also is toward an automatic rifle rather than the light machine gun that weighs around 29 pounds.

There is also a tendency to make heavy machine guns an organic part of the rifle company. The review discusses the advantages and disadvantages of this organization. The reviewer concludes that the ideal infantry organization, as he sees it, would be a company of three platoons armed with semi-automatic rifles and a fourth platoon of heavy machine guns; the battalion would have four such companies.

(4) Angleterre: Armement du peloton d'infanterie. [England: Armament of the

infantry platoon.] The reviewer comments favorably on the proposal to replace the Lewis gun with four rifle-grenade dischargers and adding 60 rifle grenades to the platoon equipment. It is felt that there is great need to increase the high-angle fire capabilities of the platoon, especially at short range. This is especially important for units that might be carried by airplane and then landed to fight on foot, but without transportation.

(5) Etats-Unis: Organisation de l'infanterie. [United States: Infantry organization.] An article on organization in the July-August 1932 "Infantry Journal" (US) is reviewed. The reviewer does not concur in the idea of taking machine gun and howitzer weapons out of battalion control. He thinks the need is rather to increase the power of lower units, to include the platoon, to deliver high-angle fire.

(6) Suède: Une organisation nouvelle de l'infanterie. [Sweden: New infantry organization.] The Swedes conducted maneuvers in September 1932 to test out battalion organization. Three types were used: present organization, strong in automatics, weak in machine guns, without howitzer weapons; experimental No. 1, with machine guns and howitzers integral parts of rifle companies; experimental No. 8, heavy weapons controlled by battalion commander. Additional transportation in two-wheeled carts was provided for both experimental battalions. Headquarters companies were increased to provide eight radio sets per battalion.

Although no definite conclusions were reached, there was much to favor the type No. 1, with weapons assigned to companies. This was considered especially suited to the broken and wooded terrain of Sweden.

#### DECEMBER 1932

(7) Le premier engagement des chars Renault en mai-juin 1918. [The first battle of Renault tanks in May-June 1918.] Général Velprey

A preface to the article on tanks published in "Revue d'Infanterie" of August 1932 (QRML No. 46). The then battalion commander adds certain information from the viewpoint of the higher commander. He emphasizes the use that was made of tanks to check the onward rush of a victorious enemy and so to bring aid to the foot troops that had become exhausted and disorganized by a long retrograde movement.

(8) Trois récits. [Eye-witness accounts.] Général Michelin

Selections from a book by General Michelin, giving some war experiences of a battalion commander. Of special interest is an incident on 18 July 1918 when his unit operated with the 59th Infantry of the U.S. 4th Division in the area: Chezy—Sommelans.

(9) Idées russes sur l'emploi des chars modernes. [Russian ideas on the use of modern tanks.] Lieut.-colonel Mendras (See abstract, page 97)

(10) La 5e division de Brandebourg au village de Douaumont (février-mars 1916). [The 5th Brandebourg Division at Douaumont, February-March 1916.] (II) Capitaine Goutard

Conclusion of article on the German attack, begun last month. Detailed account of attack against a zone. Morale of defense as an element in defeating the attack is stressed.

(11) Angleterre: Travail en liaison de l'infanterie et des chars. [England's work on infantry-tank liaison.] Review of an article in "Royal United Service Journal."

(12) Un livre italien: "L'Italie et ses Alliés pendant la Grande Guerre." [Review of General Caracciolo's book, "Italy and her Allies during the Great War."] The Italian side is presented in a rather vitriolic manner, to judge from the review, although the latter is written in a judicious and good tempered manner. The article of 14 pages is worth reading by anyone studying the Italian Front.

## 52—Revue Militaire Française (France)

OCTOBER 1932

By Major P.C. Bullard

(1) Le but des opérations de guerre. [The objective of war operations.] (II) Général Brossé

General Brossé continues his discussion of the objectives of the World War, with particular reference in this installment to the German strategy (1) in 1915-1916-1917 and (2) in the first part of 1918. Of the first group, he summarizes the operations into four classes: (1) Those designed to free the Austrians from their difficulties, using the fewest troops possible, (2) large operations against Russia, (3) limited objective attacks as at Verdun, and (4) operations with geographic objectives, as in Serbia and Rumania. He severely criticizes the Germans in every case,

whether successful or unsuccessful, for limiting their aims, for not directing their efforts at the main enemy forces, for limiting their means, or for failure to carry their successes to greater benefit.

(2) Giberne de sapeur. [Engineer's cartridge box.] (I) Colonel Baillis

For a partial translation and partial summary of this interesting article, dealing largely with the "maneuver of demolitions" by the commanders of large forces, see Section 3, page 71.

(3) La lutte pour l'Hartmannswillerkopf. [The fight for Hartmannswillerkopf.] (V) Chef d'escadron Dupuy

Major Dupuy continues his description of the fight for this peak of the Vosges, showing a French limited-objective attack in mountainous terrain. He describes in detail the French artillery operations, discussing the positions, fires, ammunition, supply, observation, signal communications, and the results, successful or unsuccessful as to detail, and unsuccessful as to general purpose.

(4) Le Gouvernement de la Défense Nationale. [Government and national defense.] (VII) Lieut.-colonel Guigues

This is a continuation of a series dealing with the Franco-Prussian War of 1870. This installment covers the capitulation of Metz, preliminary negotiations for an armistice, and the final cessation of hostilities.

(5) Le Maréchal de Monluc. Une action défensive. [Marshal de Monluc. A defensive action.] (II) Général de Fonclaire

An historical study of the defense of Sienna in 1554-55.

By Major C.A. Willoughby

NOVEMBER 1932

(6) Le but des opérations de guerre. [The objective of war operations.] (III) Général Brossé

After pointing out how Foch never lost sight of his strategic objective, to seize the important communications in Flanders and Luxembourg, throughout the allied offensive of 1918, the writer covers finally the German actions during the war. He thinks that Russia would have lasted a still shorter time if the German attack had been pushed to the limit, and this is possible though no one can be certain. General Brossé then points out that the capture of territory, especially where there are raw materials, mines, oil, wheat, etc., is of great importance, so long as it is kept

subordinate to the military necessities of the situation.

(7) La manoeuvre d'aile. [Maneuver on a flank.] (I) Colonel Loizeau

A description of Cannes and Leuthen. The descriptions of these two battles are interesting and devoid of too much detail. Both Hannibal and Frederick had far fewer troops than their opponents. Colonel Loizeau makes it quite clear that the commander must have great moral energy to bring off a success by a wing-operation, rather than by the center; this energy was a feature of both commanders.

(8) Giberne de sapeur. [Engineer's cartridge box.] (II) Colonel Baills

The second installment of Colonel Baills' study; a long and very interesting article on the work that will be required from the engineer in future warfare as a result of mechanization. Engineers, sent over by aeroplane, will be able to destroy many of the enemy's bridges, etc., unless they are better guarded than in the last war. In fact, the command and staff will have to consider communications and their destruction and construction more than ever.

(9) Le Gouvernement de la Défense Nationale. [Government and national defense.] (VIII) Lieut.-colonel Guigues

To a foreigner this installment is the most interesting of all as it deals with Alsace and Lorraine being handed over to the Germans and the discussions which took place between Bismarck and Thiers.

(10) La lutte pour l'Hartmannswillerkopf. [The fight for Hartmannswillerkopf.] (VI) Chef d'escadron Dupuy

Chef d'escadron Dupuy finishes with a description of the terrible casualties caused on both sides by the fighting for this hill in the Vosges. Attacks had gone backwards and forwards right through the war and at the end the Germans had turned their side into a real fortress. Their casualties were 60,000; although this seems exaggerated it gives an idea of the type of fighting.

(11) Le Maréchal de Monluc. [Marshal de Monluc.] (III) Général de Fonclare

The Marshal's opinions on every kind of war, chiefly in his own words, are both amusing and interesting. Final installment.

#### DECEMBER 1932

(12) La manoeuvre d'aile. [Maneuver on a flank.] (II) Général Loizeau

General Loizeau continues by describing how Napoleon and the elder

Moltke used this maneuver. Most of Napoleon's battles were designed for this type of operation, and it is quite clear from the writer's description that both a vigorous chief and an army that can maneuver are required. In the Franco-German War the efforts of Moltke are regarded as far below those of Napoleon, but here the forces were far greater, and information was correspondingly more vague. General Loizeau finishes the installment by describing the battle of Sadowa, in 1866.

(13) Organisation du territoire en vue de la mobilisation nationale. [Territorial organization for national mobilization.] Général Lugand

This really deals with France and Germany, although Great Britain, Belgium, Italy, and Russia are also mentioned. The writer gives very clear maps showing communications and divisions of the country. One of France's drawbacks has always been the industrial area of the northeast. If there is another war, the air will form a fresh form of attack. Here again the French lie more open than do the Germans.

(14) Le système de bataille du Prince de Condé. [Prince de Condé's system of battle.] (I) Général Camon

When studying the campaigns of Napoleon the writer gradually came to the conclusion that some of Napoleon's battles were founded on those of Condé. Condé commanded the French armies at the end of the reign of Louis XIII; his chief battles were Rocroi, Fribourg, Nordlingen, and Lens. Condé's system was to break the enemy's line with his cavalry and then attack them from the flank or rear with his infantry. Napoleon used this principle in many of his great battles. In this number General Camon describes the battle of Rocroi.

(15) Les bibliothèques d'officiers. [Officers' libraries.] (I) Commandant Delbe

It was not till after 1870 that the French began to realize properly that it is not enough for officers to carry out their ordinary work, they must read history as well. As a result libraries were started in the various military centers and by 1914 the French officer knew a great deal, not a smattering, about the military history both of France and of other nations.

(16) La guerre sainte des Senoussya. [The holy war of the Senoussya.] (I) Général Meynier

The first installment shows how France found it necessary to reach farther and farther forward across the Sahara during

the latter half of the last and the beginning of the present century. The French found that their policy met with favor among the many tribes in Northern Africa, but the Touareg and Senussi were always hostile and gave continual trouble.

**53—Royal Air Force Quarterly** (Great Britain)

JANUARY 1933

- (1) Xenophon and the art of war. Major-General Fuller
- (2) The 1932 Scandinavian cruise. Flight-Lieutenant Stevens
- (3) The future development of night flying. "Syphax"
- (4) Aircraft. Noise—its measurement and suppression. Nutt
- (5) Noise and wireless reception in aircraft. Flight-Lieutenant McDonald
- (6) The Paris aero exhibition. Scott-Hall
- (7) Psychology—III. Character and the daily life. Squadron-Leader Rowan

**54—Royal Engineers Journal** (Great Britain)

MARCH 1933

- (1) Major-General Charles Gordon. Allen
- (2) Demolitions, Fifth Army, 1918. Major-General Buckland
- (3) The road problem of a force operating in undeveloped country. (Winning essay of the Cooper's Hill War Memorial Prize, 1932) Captain Singer
- (4) A field company in Burma. By "Anon"

**55—Royal Tank Corps Journal** (Great Britain)

JANUARY 1933

- (1) The thrust towards Cambrai. Captain Hickey

FEBRUARY 1933

- (2) Ford cars in the Libyan Desert. Scoones

MARCH 1933

- (3) A Cambrai myth?

**56—Signal Corps Bulletin**

JANUARY-FEBRUARY 1933

- (1) The influence of the control of international communications on the conduct of war. Major General Carr
- (2) Practical means for improving liaison between the infantry and the artillery. Major Schroeder
- (3) New telephone switchboards. Lieutenant Elder
- (4) Pigeons

MARCH-APRIL 1933

- (5) First Signal Troop in the First Cavalry Division Maneuvers of 1932. Captain Rumbough

- (6) Organization of Battalion Headquarters Battery Divisional Field Artillery; its communication equipment and performance of liaison. Lieutenant Bartlett

- (7) Staff regulations. Colonel Kromer
- (8) Development of wire-laying equipment. Captain Borden

**59—Wissen und Wehr** (Germany)

By Major A. Vollmer

DECEMBER 1932

- (1) 1813. Ein Feldzug mit improvisierten Heeren. [1813. A campaign with improvised armies.] Rittmeister Balck

- (2) Organisations- und Ausbildungsfragen im italienischen Heere. [Questions of organization and equipment in the Italian Army.]

- (3) Alter und Ueberalterung. [Age and over-age.] v. Oertzen

An extensive consideration of 25 pages and 12 tables of comparative statistics on the question of the ages of military leaders. The tables show the ages in each rank of officers of the various armies of the past, including the World War. The author comes to no conclusion as to the effectiveness of youth or age in any particular rank or status. He quotes Liddell Hart, an advocate of youth, on the conclusions to be drawn from the World War ("The Remaking of Modern Armies." London, 1927) and von Cochenhausen (for translation of whose article see page 96, QRML No. 47, who concludes that both youth and age have invaluable qualities not usually possessed in common, but that when an individual does possess those of both we have a Blucher or a Moltke.

JANUARY 1933

- (4) Der 24. Februar 1916 vor Verdun von franz sischer Seite gesehen. [The 24th of February 1916 at Verdun: as viewed from the French side.] Hauptmann Prüter

A further study (in addition to that appearing in No. 9 "Wissen und Wehr" in 1931, by the same author) in the light of the new source material provided by Tome I, Vol. 1. Les armées francaises dans la Grande Guerre (French official history) on the question: "Was there a possibility on 24 February 1916 of a decision of the battle of Verdun in favor of the Germans?" In this article



the inquiry is: "Did the situation on the French side on the evening of 24 February afford the German attackers the possibility of advancing to Verdun?" The answer as provided by the French source material is in the opinion of the author in the affirmative.

(5) Aus dem Kriegstagebuche eines Feldintendanten. [From the diary of a supply officer.] Zimmer

Provides details concerning commissary, supply of animals, and finance in the field during the World War by an Intendant of the XIII Reserve Corps.

(6) Das Rätsel von Waterloo. Warum verlor Napoleon die Schlacht? [The puzzle of Waterloo: Why did Napoleon lose the battle?] Kirchheim

The author does not point to a single cause but rather to the general situation in detail which was favorable to Napoleon's enemy. He contends that this time luck favored him rather than Napoleon. He repudiates the widely spread and accepted idea that the tardiness of Grouchy was instrumental in the defeat.

(7) Die Wehrmacht der Tschechoslowakei. [National defense of Czechoslovakia.]

#### FEBRUARY 1933

(7) Die Persönlichkeit des Grafen v. Schlieffen. [The personality of Count von Schlieffen.] General v. Kuhl

(8) Graf Schlieffen und der Weltkrieg. [Count von Schlieffen and the World War.] Oberleutnant Foerster

(9) Graf Schlieffen als Lehrmeister und Wegweiser. [Count von Schlieffen as teacher and guide.] Generalmajor von Boetticher

(10) Graf Schlieffen und das Ausland. [Count von Schlieffen and abroad.] Oberleutnant v. Rieben

(11) Die Schlacht bei Fraustadt am 13. February 1706. Ein Cannae auf deutschem Boden. [The battle at Fraustadt on 13 February 1706. A Cannae on German territory.] Linnebach

#### 60—Revista del Ejercito y de la Marina (Mexico)

By Captain W.F. Safford

#### OCTOBER 1932

(1) La Organización del Alto Mando. [The organization of the High Command.] Notes on the organization of a general staff for the Mexican Army as a result of the post-revolution reorganization.

(2) Informe sobre el Sitio de Naco. [Information relative to the siege of Naco.] General Calles

Naco was occupied by the constitutional forces on 25 September 1914, as a base of supplies and a concentration area. The author describes the terrain, the defensive lines, fire support of machine guns and artillery provided, and forces garrisoning the town. He also includes the supply and evacuation services such as: ordnance repair shops, Red Cross hospital, transportation, food, arms, telephones, water, etc. The foreground was lighted by searchlights by night, after the moon waned. On 1 October the enemy gained contact with the outposts and launched a general attack on the 3d, which was repulsed. The siege continued until 15 January 1915, when Maytorena raised the siege and withdrew. The account indicates some important lessons. It is particularly interesting to the American officers who are familiar with this town and that section of the border.

(3) Lineamientos para la formación del Plan de Enseñanza de la Escuela Militar de Aviación. [Outlines for the formation of the plan of instruction of the military school of aviation.] Directive for the course at the school referred to above, in conformity to the plan of army reorganization.

(4) Qué es el Servicio de Transmisiones? [What is the service of (signal) communications?] Coronel de Caballería Gonzalez

A very good article explaining this service in simple language. Covers a little of history, needs for such a school, order creating, general plan of instruction and organization.

(5) Tema y Crítica de un Trabajo del Arma de Ingenieros. [Theme and critique of a work of the engineering branch.] Capitan Grajales

A map problem with solution and discussion on tactics and technique of the engineers.

(6) El Servicio Militar de Intendencia y su participación en la Exposición de Vincennes. [The military quartermaster service and its participation in the colonial exposition of Vincennes.] Capitán Silva

An account of the French "service de l'intendance" and its exhibits at Vincennes.

(7) La Escuela Superior de Guerra. [The Superior School of War establishes a course of imperious necessity.] Comments on introduction of a course in "Editing and Style" as part of its cultural course.

(8) Pláticas sobre el Estilo. [Lectures on style.] Capitán Posadas  
History, historical examples, quotations, necessity for proper style for clear expression, etc.

(9) La participación de los Estados Unidos en la Gran Guerra. [The participation of the United States in the Great War.] Mayor Willoughby

Continuation of an interesting and well written article on the above subject.

NOVEMBER 1932

(10) La Guerra y los Maestros de Anarquía Social. [War and the masters of social anarchy.] Whether in good faith or bad, the propagandists of extreme doctrines, conservative or radical, make use of the same methods to infiltrate their theories in the masses. For the masters of social anarchy the secret of universal peace is simple—a complete and total disarmament. Actually, however, the most rabid of such persons have been want to avail themselves of the utmost in armed forces; as witnessed by the wars of the French Revolution and what little has reached the outside world of the conditions in Soviet Russia.

(11) Lineamientos para la formación del Plan de Enseñanza de la Escuela Militar de Intendencia. [General lines for the formation of the plan of instruction of the quartermaster school.] The order, or directive, for the organization of this school and a general outline of the courses.

(12) Conferencia preparatoria para la prueba oral de Artillería. [Preparatory lecture for the oral examination in artillery.] Evers

For officers who will participate in the examinations for admission to the Escuela Superior de Guerra. Tactics and technique; elementary.

(13) El Ejército y la Ética. [Ethics and the Army.] Lera

Next year the course at the Escuela Superior de Guerra will include a series of cultural conferences, not merely to raise the general cultural level, but to emphasize moral principles.

(14) El conflicto chino-japonés. [The Sino-Japanese conflict.] Capitán Galvan Cantu

The concluding article of a series covering the history of the Chinese and Japanese differences and disputes as the background for the present trouble. An excellent article.

(15) Importancia de las Organizaciones Sanitarias en Campana. [The im-

portance of medical organizations in campaign.] Mayor Solorzano

To us, the medical service does not need to be "sold"; but to the Mexicans the value of it must be demonstrated.

(16) Marchas. [Marches.] What is supposed to be an ideal march table—or rather, time and gait schedule, for a cavalry regiment. Such things are still taught in our own garrison schools but this reviewer never saw one that was perfect; terrain, weather, condition of men and animals, etc., must all be considered and table modified accordingly and even while it is actually being used, if at all.

(17) Las Refutaciones a una nueva Doctrina de Guerra. [Refutations of a new doctrine of war.] Capitán Corzo

Reply to an article by Captain Pedro M. Cardona in the "Revista General de Marina," Spain, in which he enunciates the doctrine that aviation is omnipotent. Captain Corzo disagrees.

(18) Las Grandes Maniobras del Ejército Italiano. [The great maneuvers of the Italian Army.] General Amezcua

An excellent article. These maneuvers have, however, been quite thoroughly covered by other articles in French, German, and English, in other magazines available at the C. & G.S.S.

(19) La Participación de los Estados Unidos en la Gran Guerra. [The participation of the United States in the Great War.] Mayor Willoughby

Installment of a series of articles on this subject.

(20) El Plan de Campana Ruso en la Guerra Mundial. [The Russian plan of campaign in the World War, 1914, according to Colonel Nikolaieff.] Teniente Puig

A translation from English, showing the error in the Russian plan of campaign which made it impossible to attain a strategic decision on the Western Front, in spite of the victory over the Austro-Hungarian army in Galicia.

(21) La Artillería Italiana. [The Italian artillery.] Antecedents of the organization of the army; The artillery arm; Territorial service of the artillery; Technical service of the artillery.

(22) El Estrecho de Gibraltar. [The Strait of Gibraltar. The principal episodes of an historical tragedy.] The Strait of Gibraltar is and has always been of enormous strategic and political importance because the elevated plateau and the east-west mountain ranges of Spain hinder interior communication. To it this author ascribes the French defeat



at Trafalgar, from which beginning Napoleon's downfall finally ensued; and also the loss to Spain of Portugal and the Spanish colonies.

(23) Reorganización de la Artillería Suiza. [Reorganization of the Swiss artillery.] For some months past every Swiss military periodical has carried articles discussing the proposed reorganization of the army and particularly of the artillery but the solution has not yet been reached. All writers, however, agree on the necessity of increasing the proportion of artillery, including heavy, in the infantry division and adding thereto antiaircraft artillery. The tendency is toward the French organization just as, in 1870, it was toward the German.

(24) Convocatoria para la Escuela Militar de Intendencia. [Convocation of the Quartermaster School.] (A bulletin)

#### 61—Esercito e Nazione (Italy)

By Major C.A. Willoughby

AUGUST 1932

(1) La nebbia artificiale in guerra. [The use of smoke in war.] Maltese

A discussion of types, mode of employment, relative merit, etc. A distinction is made between "organic equipment" which is regarded as standard for modern, tactical units (such as: smoke candles, smoke bombs, smoke grenades, etc.), and chemical troops, operating special equipment, units ordinarily controlled by corps. There is an interesting paragraph on the tactical employment of armored cars, or light tanks specially equipped with smoke-producing apparatus ("Auto-nebbiogeni"). Suggested employment: Platoon of 4-6 cars; delayed employment, as they are vulnerable; duration of employment, 1-1½ hours. A number of schematic diagrams illustrate the tactical employment.

(2) Il telefono nelle principali azioni. [Wire communications in certain situations.] Grosso

The author believes that telephone (wire) communications will continue to play an important role, in spite of the remarkable growth of radio. The establishment and function of wire communication is covered in a series of situations: (1) Mobilization period; (2) march at a distance from the enemy; (3) development; (4) bivouac attacks; (5) defense; (6) mobile troops ("Nelle Grande Unita Celeri"). There are certain graphs and

tables, covering the rate of construction, approximately 2.5 km. per hour; there is one graph that establishes this "rate" as compared to the rate of advance (march) of the troops.

(3) I confini politici della Repubblica di Finlandia. [The political frontiers of Finland.] Ademollo

History and military-geographic evaluation of Finland—the land of a thousand lakes; of particular strategic significance is the Aland Archipelago, which was awarded to Finland in 1926.

(4) Il movimento wahhabita. [The Wahabita movement.] Pigli

Origin and development of this recent creation, of a domain of 1,200,000 sq. km., presided over by Ibn Saud.

(5) Parole vibranti e sincere di Italo Balbo. [Appendix: Opinion of Italo Balbo.] Refers to an article in "Popoli d'Italia," by the famous Italian Secretary of State, for Aviation. He condemns the Geneva Conference as a "monstrosity of illusions" and proves that the establishment of maximum weight, for aircraft, is for the exclusive benefit of France and Yugoslavia. In view of these egotistical tendencies, the author takes the part of Germany squarely, and recommends the withdrawal of Italy from the Conference.

SEPTEMBER 1932

(6) Le grandi manovre dell'Anno X. [The great naval maneuvers.] Bahr

A report of the recent naval maneuvers, with a number of views. Special mention is made of the armament of the cruiser "Zara," the flag-ship.

(7) Una tradizione politica—L'amicizia italo-magiar. [The Italian-Hungarian friendship.] Bartoli

An historical analysis of the Italo-Hungarian "entente" that has become prominent. Reference is made to the close liaison maintained between the old liberal elements, Cavour, Kossuth, Mazzini, Garibaldi. The treaty of Trianon is openly denounced as depriving Hungary of 70% of its old territory and 64% of its population.

(8) Attacco di un battaglione in terreno montuoso. [Attack of a battalion in mountainous terrain.] Barbato

Situation: Mountainous terrain, medium altitude. The attack is supported by a battery of mountain artillery. Noteworthy is the employment of a special "reconnaissance section" which is an organic unit, with special antigas provisions: antigas signals, etc., etc. The progressive attack of the battalion is

seconded by the systematic advancement of a munitions R.P.

(9) Su le tappe e su gli scopi dell'amicizia fra l'Italia fascista e la Turchia kemalista. [Appendix: The Italo-Turkish friendship.] The Italo-Turkish alliance was recently extended for another 5 years; this "entente" combined with a Graeco-Italian understanding can be said to control the eastern section of the Mediterranean.

#### NOVEMBER 1932

(10) La organizzazione delle Nazioni per la guerra—III. La Francia e la sua organizzazione. [The organization of nations for war. III. France.] Franchini

A study of France and its "potential de guerre." The author states that France is the best prepared nation in the world, for war, in spite of its constant plea for security. The "Conseil Supérieur pour la Défense Nationale" enjoys extraordinary powers; the industrial and economic preparation is on a par with military measures.

(11) Caso pratico di esplorazione vicina. [A practical example of close reconnaissance.] Costa

A map maneuver dealing with the tactical employment of a divisional reconnaissance battalion, according to prevailing Italian views. This unit is ordinarily composed of: 2 Squadrons, 1 Cyclist Co., 1 Battery FA (Horse), 1 MG Platoon (cyclist), 1 MG Platoon (Horse). The Cyclist Co. of 200 men, subdivided: (a) Co., (b) Train section, (c) 3 Plat. with 9 MGs. Under the terms of the problem, the squadrons formed the pivot of maneuvers, by holding frontally, while the Cyclist Co. supported by artillery, operated in an envelopment. March formation: Advance Guard: 1 Plat. (mtd); Flank Guards: 2 Mtd. patrols; Main body: Squadrons, Artillery, Cyclist Co.; Rear Guard: Cyclist platoon.

(12) Servizio radiofonico d'artiglieria—Organizzazione nel Corpo d'armata e nella Divisione. [Radio communication of the artillery (corps and division).] Telmon

A discussion of the system of radio-communication, within the framework of the corps and division, in an attack situation; the system is traced down to including battalions.

(13) Artiglierie navali. [Naval artillery.] Bahr

(14) Il campionato militare di campagna. [Military tournament.] Agar

Field exercises. In celebration of the 10th anniversary of Fascism, the infantry branch of the army staged a field day, with some remarkable incidents of athletic prowess: (1) Endurance march 35 km, in 3 hours, 6 minutes; (2) Forced march of 10 kms, in 42 minutes.

(15) Il volo a vela. [Glider school.] Prepositi

The Italian government established a special school for "glider" training at Pavullo, with a view to the training of reserve officers. Number of pupils: 170. Duration of courses: 30 days.

#### 82—Current History

##### JANUARY 1933

(1) The War in the Chaco. Doyle

##### FEBRUARY 1933

(2) South American republics at war. Doyle

#### 85—Foreign Affairs

##### APRIL 1933

(1) Bases of American foreign policy during the past four years. Stimson

(2) Necessary changes in our commercial policy. Taussig

(3) The tasks of the World Economic Conference. Layton

(4) Poland's so-called Corridor. Padewski

(5) German military power since Versailles. General Groener

(6) Our wheat surplus. Nourse

(7) The balance sheet of the Five Year Plan. Chamberlin

(8) Chinese public opinion. Betts

(9) Union or disunion in Central America? Buell

(10) The American stake in the Philippines. Moore

#### 86—Foreign Policy Association: Foreign Policy Reports

##### 18 JANUARY 1933

(1) The world disarmament conference. Second stage, March 17, 1932—January, 1933. Stone

##### 1 FEBRUARY 1933

(2) American policy toward the Sino-Japanese dispute. Buell

**93—International Conciliation**

JANUARY 1933

(1) The Far Eastern problem. Official texts and summary of the Lytton Report.

FEBRUARY 1933

(2) Intergovernmental debts. Articles and texts.

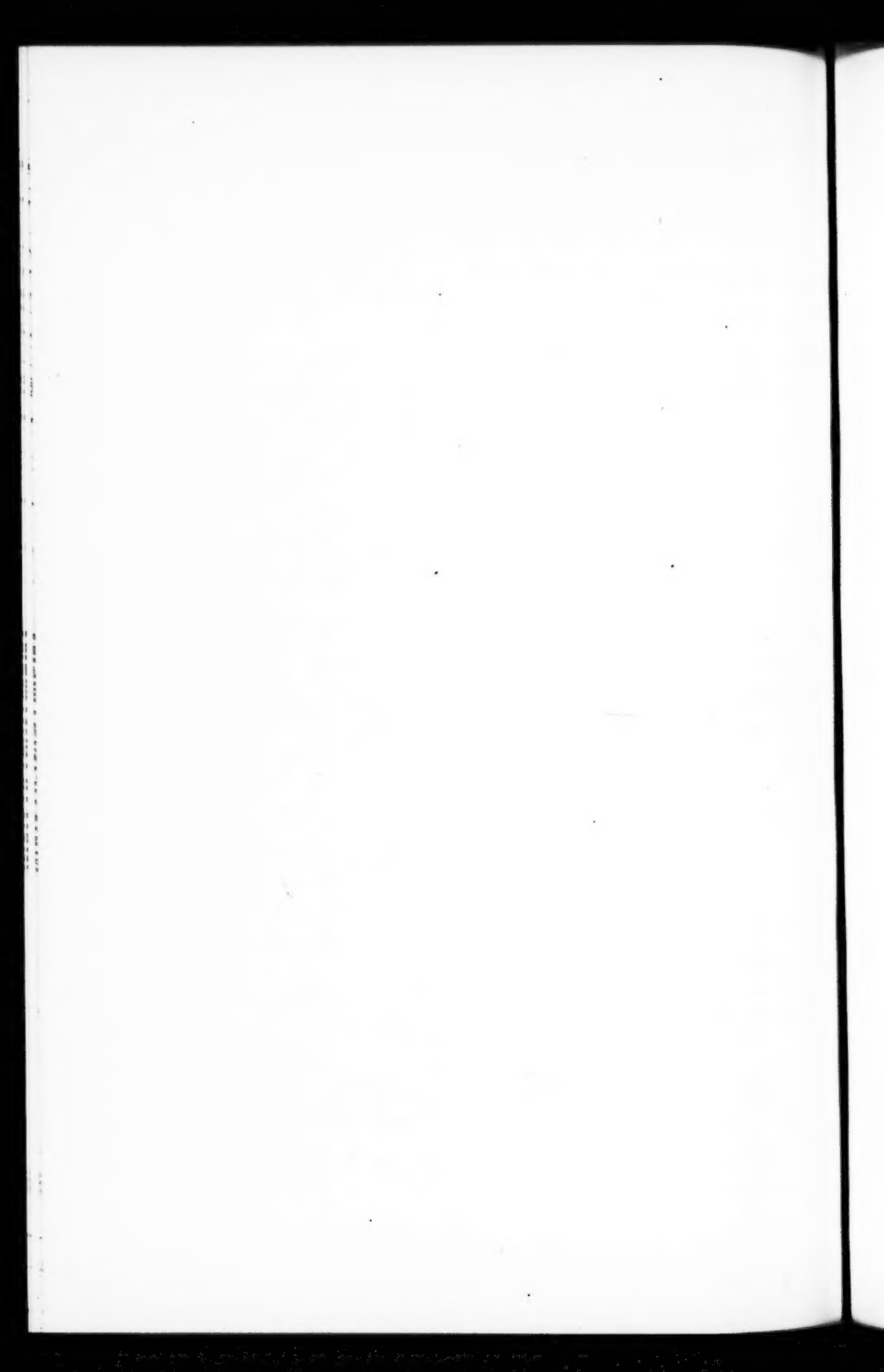
MARCH 1933

(3) Danzig and the Polish problem. van Hamel

**102—Political Science Quarterly**

MARCH 1933

(1) The early development of the law of contraband of war. Jessup & Deák



### Section 3

## ABSTRACTS OF FOREIGN-LANGUAGE ARTICLES

### EXPLANATION

The entries from foreign-language magazines, in Section 2, include digests of the articles. This Section is designed to furnish translations or abstracts of the more important articles. Therefore, this Section is an extension of Section 2.

### CONTENTS

	Page
Bacterial Warfare. (Infantry Journal).....	39
Brussilov and his Riders in June 1916. (Militärwissenschaftliche Mitteilungen).....	42
Combat-Group "Schimpf" at Louvain. (Militär-Wochenblatt).....	47
Combat Methods of a French Infantry Company. (Militär-Wochenblatt).....	50
Command of the Sea or Command of the Air? (Deutsche Wehr).....	54
Dangers in Attachment of Artillery. (Militär-Wochenblatt).....	62
Employment of Artillery of a Mobile Division. (Militär-Wochenblatt).....	68
Engineers Cartridge Box. (Revue Militaire Francaise).....	71
French Maneuvers in the Light of Existing Regulations. (Militär-Wochenblatt).....	83
Modern Mobile Units. (Militär-Wochenblatt).....	88
More Infantry. (Militär-Wochenblatt).....	94
Russian Ideas on the Use of Modern Tanks. (Revue d'Infanterie).....	97
Withdrawal. (Militär-Wochenblatt).....	100

### BACTERIAL WARFARE

[The use of biologic agents in warfare. By Major Leon A. Fox, Medical Corps. Infantry Journal, January-February 1933]

Abstracted by Lieutenant Colonel A. Gibson

1. War is the use of force by one nation to impose its will upon another.

The means and methods used in war have changed progressively with man's development in art, science, and industry.

Man has always used whatever means and methods were available at any particular stage in his civilization and which gave promise of enabling him to subjugate his enemy. It is an axiom that no effective weapon once introduced has ever been abandoned until it was displaced by a more effective weapon or protection developed that rendered the instrument useless.

Chemical Warfare, or so-called gas warfare, came into being in 1915, not because men at this stage in civilization

were more ruthless or more anxious to destroy than in previous wars, but because for the first time the development of a large chemical industry made chemicals in large quantities, and suitable types, available on the battlefield as an aid to the orthodox means and methods of winning battles.

Strange as it may seem, as the technique and tactics of chemical warfare developed, the percentage of deaths and the degree of suffering decreased from a very high point in the first gas attack to the lowest point for any means or method of waging war that has ever been invented.

Without this purpose or thought on the part of those introducing it, chemical warfare has actually done more to reduce suffering and to humanize war than all the conventions that have assembled for this purpose during several centuries.

This statement is so contrary to popular misinformed opinion that to many it will seem bizarre. And yet a very cursory perusal of the incontrovertible data that the several governments engaged in the war have made available, can not help but convince any fair minded reader, so clear and overwhelming is the proof.

2. While great effort is being made the world over to establish international relations and machinery that will forestall a future war, yet the success of this effort is sufficiently uncertain to cause each nation to ask: "What new means and methods of warfare have modern art, science, and industry made available? Are we prepared to protect our soldiers and our civilians against any possible new means and method of warfare?"

Bacteriology has made tremendous strides in recent years. We know it carries both the seeds of life and death. Our thoughts at once turn to it as a possible method of waging war in the future. The bacteriological arm has not yet been employed in war.

The biologic agents available for warfare are:

- a. The communicable diseases
- b. Other infective processes (such as wound infections)
- c. Toxic products of bacteria.

3. An international commission consisting of Professor Pfeiffer (Breslau), Bordet (Pasteur Institute), Madsen (Copenhagen), and Cannon (Harvard) appointed to investigate this

subject, reported to the League of Nations in 1922 essentially as follows:

a. The effects of bacterial injury cannot be limited or localized.

b. Modern water purification methods protect against the organisms of typhoid and cholera.

c. Plague is a disease that would be as dangerous for the force using the organisms as for the attacked.

d. The danger from typhus has been exaggerated.

e. Modern sanitary methods are effective in controlling communicable diseases.

f. Bacterial warfare would have little effect on the actual issue of a contest in view of the protective methods which are available for circumscribing its effects.

g. As regards the poisoning of weapons, the experts point out that the germs which could be employed (streptococci, anthrax spores, glanders bacilli, etc.) would not preserve their danger properties if they were prepared a long time beforehand and allowed to dry on metallic surfaces. Nor if placed in a projectile would these germs better resist the shock of discharge, the rise of temperature, and the violence of an explosion which destroys all life. The only method presenting a certain danger would be that of dropping from aeroplanes glass globes filled with germs.

h. The majority of experts are of the opinion that bacteriology cannot at present produce effective substances capable of destroying a country's live stock and crops.

*A reasonable conclusion from the report of this League of Nations Committee of Experts is that no nation, however ruthless, would probably resort to bacteriological warfare because of the technical difficulties involved and because the danger to its own people would be so great.*

4. Chemical Warfare and Bacteriological Warfare because of their inherent elements of the mysterious and unknown have afforded recently a fertile field for the imaginative writer from Emil Ludwig down to the more or less unknown scribbler in popular periodicals.

These articles are written for popular consumption and have no regard for scientific facts nor for reasonable logical deductions from the basic data.

The results are lurid tales of horrors that tend to create an unreasoning prejudice against economical, scientific, and



relatively humane means of national defense by attributing to science a ruthless inhumanity of which it has not been guilty and which is technically and scientifically impracticable in so far as we can now see. There is a need of combating the effects of these articles on public opinion, by the presentation of the truth in a conservative, scientific manner, written in a style that will appeal to the general reader.

Major Fox's article satisfies these requirements. It presents in a clear, non-technical, and comprehensive manner that information which each officer and each well informed civilian should have with reference to Bacteriological Warfare.

5. He concludes: "It is believed that it has been shown that the development of implements of warfare represents an evolution based on the gradual application of the improving mind of man. The one factor of importance in this development has been effectiveness. It has been a question of the good mind versus the strong back; of the thinker versus the lifter. It is believed that the future of warfare will be based on the same principles. It is therefore apparent that the question of whether chemical munitions will be used or not, and whether bacterial warfare will be used or not, will depend on their practicability rather than on the sentimental reactions of pacifists.

*I consider that it is highly questionable if biologic agents are suited for warfare. Certainly at the present time practically insurmountable technical difficulties prevent the use of biologic agents as effective weapons of warfare."*

#### BRUSILOV AND HIS RIDERS IN JUNE 1916

[Brussilov und seine Reiter im Juni 1916. By Oberstleutnant Diakow. Militärwissenschaftliche Mitteilungen, January 1933.] (See original for sketch)

Translation by Major A. Vollmer

In June 1916 Brussilov had carefully prepared the offensive of his group of armies against the Austro-Hungarian front. The objectives of the armies were definitely fixed; the missions and actions of the breakthrough groups were organized in the most minute detail. Nothing was to be left to chance.

On 4 June the storm broke on the Southwest front from Pripjatj to the Rumanian border. By 10 June it was known that a great success had been attained. The Russian attack troops of the north and south wings had broken through the fortified zones at Luck and on both sides of the Dniester, and

were in open country. The flank armies of the Austro-Hungarian East front (4th and 7th) had been decisively broken through. The first step in the months of position warfare had been taken; the Russian infantry and artillery had done their duty. But what had the numerous cavalry of the Southwest front done in these critical days to exploit the breakthrough?

Brussilov had 51 regiments, 60,000 sabers, organized into 16 cavalry divisions. They were located on the flanks, except one division which was behind the center of the front.

To only one Cavalry Corps (the IV of 4 cavalry divisions) had a definite mission been given by Brussilov. This Corps, under General Gillenschmidt, was located on the extreme north wing in a region of swamps and woods. Assisted by the infantry of the XLVI Corps, it was to break through the enemy not later than 5 or 6 June, advance along the railroad: Sarny—Kowel, and carry confusion of every sort into the enemy rear. (P. Balujew, "The Eighth Army at the Breakthrough of Luck." Moscow 1924, pages 40, 41, 76; W.N. Klembowskij, "The War of Position and the Breakthrough on the Southwest Front." Moscow 1920, page 37.)

Brussilov left the employment of the remaining cavalry units to the Army Commanders in whose areas they were located. Thus it transpired that these units, some of which were in the trenches, received missions for the June breakthrough which were pertinent to the armies but not to the general situation.

General Kaledin, the commander of the Eighth Army, himself a cavalry leader, used the V Cavalry Corps in the trenches south of the railroad Sarny—Kowel in order to conserve infantry, and kept available only the 12th Cavalry Division for pursuit in the direction of Luck.

General Sacharow, the commander of the Eleventh Army, another cavalryman, gave orders to his 3d Trans-amur Division to advance without delay, after the breakthrough had succeeded, to the railroad: Krasne—Brody, disrupt the communications and bring about confusion of every kind. A detachment of lancers was to capture or destroy General Bothmer's Army Staff in Brzezany. (P. Tscherkassow, "The Breakthrough at Luck." Moscow 1924. Appendices 10 and 118.)

In the Seventh Army the 6th Don Cossack Division was kept in readiness behind the main attack group; the II Cavalry

Corps was held behind the south wing. (J. Nagaibakow and J. Pogoniailo, "The Operation of Jazlowiec." [Wojna; Rewolucja 1929. No. XI.] )

The commander of the Ninth Russian Army stationed the III Cavalry Corps of two divisions in the Pruth position with strict orders to hold it at all costs. The 1st Don Cossack Division was behind the area where the breakthrough was to occur, between Pruth and the Dniester. The native Cossack Division of the Caucasus was north of the Dniester. (A.J. Litwinow, "The Breakthrough of the Russian Ninth Army in June 1916." Petrograd 1923, pages 46, 47.)

Therefore, on the first days of the attack, of all the cavalry of the Southwest front there were available only three cavalry divisions at the point of breakthrough for the exploitation of a success.

While the infantry of the Eighth Army went from one victory to another in the area of Luck, the IV Cavalry Corps, in cooperation with the infantry of the XLVI Corps, was engaged in a costly hopeless attempt to break through the swamp position in the direction of Galuzia-Maniewiczze. In these battles certain regiments, such as those of the 2d Komb. Cossack Division, lost half of their strength (Balujew 50). All of Brussilov's raging was in vain: his orders to the IV Cavalry Corps to attack without regard for losses, his threat to relieve General Gillenschmidt, and his expression to the latter of his dissatisfaction (Klembowskij, page 47). On 10 June Brussilov had to recognize the futility of the efforts of the IV Cavalry Corps, which lacked heavy artillery, and order the abandonment of the undertaking.

But the cavalry divisions which had been stationed by the armies at the points of breakthrough were likewise unsuccessful. The 12th Cavalry Division came late to the battle on 7 June south of Luck and let the 7th and 8th of June pass without doing anything, not even daring to attempt the crossing of the Styr. Not until 9 June did the crossing of the Styr at Luck occur. Then the 12th Cavalry took up the pursuit of the withdrawing enemy in the direction: Wladimir—Wolynsky. (Gen. Winogradsky, "La Guerre sur le front oriental en Russie," Rumania, page 169.) An attempt by the V Cavalry Corps to cross the Styr at Rozyszcze on 12 June was quickly stopped at Mylsk.

When the leader of the Eleventh Army recognized that it was impossible to succeed with the main effort along the

railroad Tarnopol—Lemberg, he sent his Amur Cavalry to try their luck on the right wing where, at Sapanow, a local breakthrough of the enemy line had succeeded. But the enemy front was still intact and neither here nor later at Plaszewka did the cavalry have its full effect, although here and there single squadrons perpetrated successful mounted attacks against shaken infantry.

After preliminary successes the three cavalry divisions of the Seventh Army soon came to a halt at the stream junction: Dneister—Baryszka. Here they remained, although on 10 June a promising field for great cavalry activity opened in the army center, and there was only one regiment of the Corps Cavalry available there.

In the Ninth Army the bulk of the cavalry was in the Pruth position. However, not even the Caucasus native Cossack Division nor the 1st Don Cossack Division, which were behind the point of breakthrough, were employed on the first days of battle (4 and 5 June). Not until 6 June was a Caucasus cavalry brigade advanced across the Dniester for pursuit in the direction of Okna. The 1st Don Cossack Division was ordered by the Army to relieve the Infantry of the XXXIII Corps on the north bank of the Dniester to permit it to engage in the attack of 10 June. The III Cavalry Corps on this day received the mission to cross the Pruth and take Czernowitz. (Litwinow, pages 65, 66.)

On 10 June, after 16 hours of assault, the Austro-Hungarian front south of the Dniester broke. A part withdrew to the south, a part to the west. The moment had come to disrupt the Austro-Hungarian forces in the Bukowina by ruthless employment of the cavalry. But the mass of the Caucasus Cavalry (the strong 2d Brigade) remained inactive behind the Dniester until 12 June. The 1st Don Cossack Division was unable to gain ground in its pursuit towards Czernowitz; the III Cavalry Corps exhausted itself in efforts to cross the Pruth on 10 and 11 June. Only one brigade of the Caucasus Cavalry had ridden beyond Okna. One regiment of corps cavalry (the Tekintzen regiment) had advanced to Pohorloutz, there damaging the withdrawing enemy. When the headquarters Ninth Army finally came to its senses, ordered that the useless Pruth attacks be stopped and an advance be made on Kolomea, it was already too late. The III Cavalry

Corps could not get through. It was forced in the direction of Czernowitz.

Thus the middle of June had arrived without decisive use of the preponderant cavalry on the Southwest front, though the combat situation had been favorable for this. In the meantime the Central Powers had done everything possible to reestablish a balance of forces in the breakthrough areas. They had called up reinforcements from all directions. They managed to augment their combat strength to such an extent that by the middle of June they were able to launch counterattacks at the bend of the Luck and on the Strypa.

The way in which cavalry was employed on the Southwest front in the decisive first days of June is more remarkable when we consider the genius for leadership possessed by Brussilov, the care with which the offensive was planned, as well as the numerical superiority and efficiency of the cavalry. And, moreover, there were available cavalry leaders of such reputation as Gillenschmidt, commanding the IV Cavalry Corps; the courageous Count Keller, commanding the III Cavalry Corps; and General Mannerheim, leader of the 12th Cavalry Division, later the dictator of Poland. And the two army commanders were well recognized generals of cavalry. Battle tried cavalry divisions, like the 10th, vied in the joy of action with the Cossack units, and with the Volunteer Cavalry of the Caucasus who were noted for bold riding over the most difficult terrain. Thus all the prerequisites for successful employment of cavalry were present when there occurred this unexpected break-down of the Austro-Hungarian front at Luck and in the Bukowina.

Yet the cavalry was not used on the battlefield. There can be only one explanation for this: Brussilov did not expect a success of this magnitude, moreover his subordinates had no faith at all in the success of the offensive. Neither had thought of freeing their cavalry for the battle. On the contrary the cavalry was for the most part stuck in the trenches or in swamp and wooded areas. Thus they were missing when the infantry success cried for exploitation. While the way lay open at Luck and on both sides of the Dniester, a strong cavalry group on the north of the army front was coursing over swamp and wooded areas. In the south a cavalry corps tried to force a river in order to attack a fortified town. When the middle of June arrived and the Central Powers changed from defense

to attack on the Southwest front it was too late to intervene. Napoleonic cavalry would have been disastrous for the Austro-Hungarian front in the first days of June. Yet, during all of 1916 the Russians never effectively employed their strong admirable cavalry forces. It is of no importance that a cavalry corps pursued the enemy into the depths of the Carpathian woods.

This missed opportunity of the cavalry—dissipated in many small secondary missions, instead of being held together for a great effort—robbed the Southwest front of the full fruit of the preliminary successes of the campaign in June 1916.

#### **COMBAT GROUP "SCHIMPF" AT LOUVAIN**

[Gefechtsgruppe Schimpf bei Löwen. By Oberleutnant Blecher. *Militär-Wochenblatt*, 18 December 1932]

Translated by Major A. Vollmer

[Note by Editor, *Militär-Wochenblatt*: Colonel von Schimpf distinguished himself in this campaign as leader of a unit of combined arms. From 28 to 31 August at St. Benoit on the right wing of the XV Army Corps (see *Reichsarchiv* work, III, pp. 280-288). On 6 November 1914 he fell at the head of his regiment, the last commander to be appointed before the War, just as 200 years before fell the first commander, Colonel von Forstner at Peterwardein on August 5, 1716.]

Peace-time exercises involving a reinforced infantry regiment are often based on the sudden assembly and arrival of reinforcements, or other troops not belonging to the division, who have been withdrawn from another point and are put at the disposal of the local commander. In 1914 there was an example of this, not common on the west front.

On 5 September 1914, German GHQ had withdrawn the XV Corps from its sector in the Vosges Mountains and initiated its march to the north. Starting on 9 September the troops of the XV Corps (including the 126th Infantry) departed in four transport trains through the Eifel Mountains and Belgium for northeastern France. The 1st and 2d Bns. 126th Inf. reached the point of debarkation, Busiany (NW of St. Quentin) without mishap on 12 and 16 September respectively—the MG Co. followed later. It was otherwise with the 3d Bn. 126th Inf. which was accompanied by the Regimental Commander von Schimpf with his staff. Their train coming from Herbestal—Liege was stopped at 2:00 PM on 11 September at Tirlemont and the troops detained on

order of the Seventh Army HQ at Brussels. What had happened?

On 9 September 1914 the attack on Antwerp had begun. On that day Belgian forces in the field in front of the fortress had undertaken a sortie in force against the east flank of the German line of observation in front of Antwerp and against the main railroad center: Cologne—Liege—Brussels. It was learned that a total of 5 Bns., 1 Sq., and 4 Btries. of the army corps had been engaged in this vicinity. Maj. Gen. von Jacobi, commanding the 11th Reinforced Reserve Brigade, was in charge. His mission was to protect the railroad station at Louvain and the railroad: Tirlemont—Louvain—Brussels. The 3d Bns. of 99th and 172d Infantry, which had detrained 24 hours earlier, had already participated in an attack north of Louvain on 10 September. The Brigade Commander intended to attack the enemy on 12 September in the vicinity of Holsbeek—Thieldonck.

Under the command of Colonel von Schimpf, commanding the 8th Wurtemberg Infantry (126th Inf.), a detachment was constituted of the 3d Bn. of his regiment, the 8th Rhine Jäger Bn., and the 3d Bn. of the 99th Inf. This detachment was assembled at the Louvain railroad station where it stayed during the night of rain. This combat group Schimpf, which was further reinforced by a battery of 6th Reserve Field Artillery, was located at 5:30 AM on 12 September between Louvain and Wilsle at the north end of the city, ready to march through Herent on Thieldonck: 3d Bn. 126th Inf. in advance on the right, 8th Jägers in advance on the left, 3d Bn. 99th Inf. behind the Jägers. The 7th Marines reinforced (Lt. Col. von Bernuth) was to advance to the right of the detachment, the 11th Reserve Infantry Brigade (20th & 24th Res. Inf.) on the left.

When the Schimpf group reached Herent it was turned on Rotselaer by command of the brigade. It therefore crossed the canal south of Wymal on boats. The 3d Bn. 126th Inf. marched ahead along the railroad: Louvain—Aerschot; the 8th Jägers on the road: Louvain—Drie-Linden with the 3d Bn. 99th Inf. behind them. Lt. Col. von Bernuth encountered serious resistance south of Holsbeek. The 3d Bn. 126th Inf. was put at his disposal on request and thereupon received orders to take the woods between Holsbeek and Attenhoven which were occupied by the enemy. At 3:30 PM the 9th and



10th Companies were developed for this purpose. They drove out the enemy (parts of 7th and 27th Belgian Bns.) and captured two machine guns. The 11th and 12th Cos. 126th Inf. went into bivouacs for the night at Kessel. With the other troops Colonel von Schimpf had meanwhile, after a short fight at Drie-Linden, occupied Rotselaer. This place was held in spite of heavy Belgian artillery fire. During the night (it was raining again) the 8th Jägers bivouacked at Rotselaer. The 3d Bn. 99th Inf. provided protection of the exits of the place. The adjacent troops on the right had driven out the enemy from Holsbeek and those on the left had reached the vicinity south of Wespelaar.

In the continuation of the attack on 13 September the brigade ordered the Schimpf group to take Werchter. The detachment leader advanced at 7 o'clock at Rotselaer, the 8th Jägers in advance. Just south of Werchter the Jäger point came under fire. The Battalion developed for attack between the Deiner and the road: Rotselaer—Werchter, the 3d Bn. 99th Inf. adjacent on the left. Met by rifle and machine gun fire, the 3d Bn. 99th Inf., after a short fire-fight, routed the Belgians who demolished the two canal bridges and withdrew to the north. The 12th Co. 99th Inf. crossed the canal on a hastily improvised bridge and organized the north end of the village for defense. The Jägers followed. The 9th and 11th Companies 99th Inf. rehabilitated the bridges. This was accomplished by 2:00 PM notwithstanding continuous artillery fire. The batteries supported the attack from a position south of the canal. The 3d Bn. 126th Inf. had acted as advance guard to protect the march of the Bernuth unit on Aerschot which was found clear of enemy. It was then released to the Schimpf group, whose commander withdrew it as reserve through Rotselaer to the south edge of Werchter. Towards evening the 11th Reserve Brigade stood on the line: Werchter—Haecht. The enemy now evacuated the north banks of the Demer and Dyle. At 6:00 PM the Schimpf combat group was relieved by the 24th Reserve Infantry. It marched back to Louvain, bivouacked at 10:00 PM near the railroad station, and was broken up on 14 September when its units were again entrained.

A hastily constituted organization, whose three chief elements were hardly acquainted with each other, had worked

as a unit under difficult conditions, as was to be expected from the unified training of the German Army, and achieved success.

### COMBAT METHODS OF A FRENCH INFANTRY COMPANY

[Organisation und Kampfweise einer französischen Kompanie. Militär-Wochenblatt, 18 January 1933.]

Abstracted by Major A. Vollmer

The purpose of this study is to get away from the training practice of opposing our (German) forces by enemy units of the same training and organization as our own. If this error were persisted in, a false impression would be created. It would not be realized, for example, that the French "group" (squad) (light MGs and riflemen) normally occupy in attack and defense a front of only 50 m. in width and depth, or that in each such group there is a rifle grenadier.

#### I. COMBAT SQUAD

1. *Organization and equipment.*—Lowest unit the squad, led by NCO armed with rifle. His substitute, a lance corporal, likewise armed with a rifle. Squad composed of light MGs and riflemen. Leader of light MGs is another substitute for squad leader. To the light MGs belong: 1 gunner, 1 loader, 3 ammunition carriers. The first two armed with pistol, the last 3 with carbines. The riflemen are composed of 1 expert (leader), 3 riflemen, 1 rifle grenadier. All riflemen are equipped with rifles and hand grenades. All personnel carry entrenching tools.

2. *Characteristics of the weapons.*—(a) The light machine gun (model 1924, caliber 7.5 mm.) is about equivalent to German light machine gun. Cartridges are held in a rigid strip of 25. Rapidity (normally 600 shots per minute) can be decreased to 450. Weapon is suitable for single shots or continuous fire. Capable of aimed fire in darkness, dust, or fog if prepared for same during good visibility. Has bipod in front and support under butt. Can be employed for antiaircraft. Weight, total 9 kg.

(b) Rifle and carbine.—Various models in use, more or less comparable to German types. Newest model 1916. Magazine holds 5 cartridges. Length 1.3 m., weight 4 kg.

(c) Pistol.—Various models used. Oldest 1873. Newest is of 7.6 mm. caliber. It holds 7 rounds and weighs 720 g. loaded.

(d) Ammunition.—Type and effectiveness comparable to German.

(e) Hand grenades.—There are handle and egg types. Former are generally used for smoke or gas. Latter have sub-types for defense and attack. Handle types have average range of 30 m, an effective area of only 8 to 10 m. Egg types scatter fragments over 100 m.

(f) Rifle grenades are fired from dischargers which can be set on each carbine and rifle. Range 80-170 m.

3. *Approach march*.—Normal squad formation in file. Only exceptionally in line to take advantage of cover. Advance is by bounds, utilizing cover afforded, under direction of platoon leader, or solely under control of squad leader. If the squad is in front at the head of the platoon it takes up combat formation, the riflemen going several meters ahead and deploying for reconnaissance. The squad leader then stays between riflemen and machine gunners so as to keep both constantly in sight. The width and depth of this formation must not exceed 100 m. Whenever the squad advances on a flank the riflemen advance in echelon.

4. *Contact*.—As soon as the advance draws enemy fire the riflemen act as scouts. They try to determine whence the fire comes and to continue their advance. If this is impossible they stay prostrate under cover and avoid masking their own machine gun fire. Squad leader puts MG into position in order to shoot between scouts, or he advances it to line of scouts. He orders opening of fire according to instructions of platoon leader who is marching at head of one of the points. If the enemy suspends firing, or withdraws, the advance is again resumed. The light machine gun follows hard behind the riflemen, always prepared to go into position again. In any other case the squad remains in place. Since contact has been gained the squad leader awaits platoon leader's orders.

5. *Attack*.—The squad attacks in half squads or in line. The former is employed if the fire fight is being restricted to MGs. Normally, fire is opened as soon as it is thought that the distance from the enemy is less than 1200 m. A line is chosen up to 400 m. from the enemy, if riflemen are to begin firing. Width and depth of the squad in the attack not to exceed 50 m. The squad advances piecemeal. If advance without fire is impossible then fire and movement alternate. The squad leader constantly seeks covered routes of advance.

If platoon leader's supervision becomes interrupted then squad leader continues advance in original direction, or, if advance is stopped, he supports adjacent units by fire.

6. *The assault.*—The squad goes forward in line, under cover of MG fire, without delay. MGs fire during the assault. The rifle grenadier fires over enemy cover. Hand grenades are launched when within range. Generally these are employed by the two riflemen who are near squad leader. On signal of squad leader the squad charges the enemy. The attackers shoot again with rifles while moving, and then attack with pistols. As soon as the squad has taken the enemy position the machine gun is put in position. As required by the infantry plane the squad leader puts out panels.

7. *Defense.*—The machine gun has the main mission, as well as a number of secondary missions. Main mission is to constitute bands of fire. If it must fire obliquely it must be protected by several riflemen in front. There is no scheme. Squad leader stays back of or close to his MG. The distribution of group must not exceed 50 m. It covers a much greater width by fire. The work in the position consists of arranging for a field of fire for the MGs, the construction of rifle pits which are gradually enlarged to trenches, and preparation of obstacles. All works are camouflaged with great care.

## II. THE PLATOON

1. *Organization.*—A platoon leader, a substitute leader, a lance corporal rifle grenadier, a messenger, an observer, and three combat squads (see above).

2. *Approach march.*—During deployment the platoon leader is normally with machine guns of his most advanced squad. Width and depth of platoon in general not over 150 m. Advance in triangular formation is most common. It affords a good organization from the beginning. If necessary then all three machine guns can open fire simultaneously.

3. *Combat at middle ranges.*—In this phase the organization must be such as to bring entire fire power of platoon to bear. The platoon attacks in triangular formation, with squads abreast, or echeloned. Width of platoon not over 100 m., depth not over 150 m.

Usually triangular form, 2 squads ahead and 1 behind the center. The reserve squad must be able to fire with its MGs between or on the flank of the squads ahead. Occasionally

also the 3 squads are employed abreast in case the platoon leader wants to use all 3 MGs from the start. This is done in an attack on a stubborn defensive in a prepared position. The rifle grenadiers are often consolidated under the lance corporal who is with the platoon leader. 1 squad may be reinforced by riflemen of 1 or 2 squads and by remaining rifle grenadiers for special missions in which hand grenades are essential.

4. *Defense.*—The chief duties of the platoon leader consist of assigning places and missions to the 3 squads and selecting positions for the 3 MGs and the rifle grenadiers. Distribution in width of platoon not over 150 m. Depth is generally less than this. The place of platoon leader is generally ordered by the company leader.

### III. THE COMPANY

1. *Organization.*—The rifle company is composed of: 1 leader, 1 command echelon, 4 combat echelons. Leader of command echelon: Senior Company Sergeant Major. He is responsible for both subsistence and ammunition supply. He has 2 squads under him. The first is commanded by a junior sergeant major. It consists of 2 duty NCOs, 4 messengers (bandsmen), 1 cyclist, 2 signallers, 2 observers. The second is commanded by a detailed sergeant major. It consists of: 1 lance corporal, 4 cooks, 1 barber, 1 tailor, 1 shoemaker, 4 drivers.

2. *Attack.*—Width and depth each 400 m. As soon as contact is expected the company is organized in two waves—the fire wave and the reserve. Width now 300 m, depth 400 m. In fire wave as many platoons are employed as needed to secure fire superiority. Allowance is made for intervening space of 50 m. for each machine gun. Company leader sees to it that there are enough machine guns so that there will be no place in front of company which is not under aimed fire. Normally 2 platoons in front line. The reserve includes the platoons which are not in fire wave. In attack on an enemy who is dug-in the width is reduced to 200 m.

3. *Defense.*—The width is not over 400 m. Depth is ordered by Battalion Commander but is generally the same. When the company is behind the MLR the place of company leader is near same.

NOTE THAT: (1) French have twice or threefold German light machine gun strength; (2) Protection by fire is more stressed by French than Germans though former do not need it as much; (3) Independence of French leaders of all grades is greatly restricted as compared with Germans. The French set much store on the schematic. We must gain advantage from this by quick action. The disadvantages of short enlistment periods are shown hereby. Yet they do not seem to place much faith in their NCOs. (4) In her anxiety over her "endangered security" France still burdens herself with much obsolete unserviceable material. This is undoubtedly due largely to financial reasons; (5) One can however, very well envy the French their light machine gun. It unites all advantages which ours lacks: light weight, possibility of rapid change of position, support of butt, and ability to execute fire in darkness or fog on determined targets when pre-arranged.

# COMMAND OF THE SEA OR COMMAND OF THE AIR?

[By Rear-Admiral A. Meuer, Ret.—Translated from "Deutsche Wehr" (Berlin), issue of May 8, 1931]

## I.

In the United States as well as in France a school of flyers and airplane enthusiasts has arisen which, aside from the indubitably high value of the air arm in land warfare, predict its victory also in naval warfare and ardently champion the view that not only has the end of the great battleship come but that command of the sea as such, even for a superior fleet, would be annulled by command of the air. Thus there would no longer be any sense in building battleships, and the air fleet alone would need to be strengthened and developed. But even when one does not share this radical view, command of the sea, which has decided so many wars, including the European conflict of 1914, by its slow but deadly action, still seems to many to be so restricted by air warfare, or at least put in question, that sea tactics and sea strategy would have to be built up on quite new principles. To what extent this view is based upon facts and corresponds to the present status of air arms shall be investigated as briefly as possible in the present paper. We can not, to be sure, hope to arrive at more than tentative conclusions, for the development of air weapons is going forward so rapidly that what holds good for today may even tomorrow be superseded by technical or military innovations. (1)

(1) For further information the interested reader may be referred to the foreign press, especially "Naval and Military Record" (England), "U.S. Naval Institute Proceedings" (United States) and "Revue Maritime" (France), as well as to two excellent technical contributions to "Marine Rundschau"; "Types of Seaplanes in their Tactical and Strategic Tasks," by Lieut. Bartz, Ret. (Oct. 1930) and "Influence of Aircraft on Naval Operations and Naval Tactics," by Capt. Paul (Feb. and March 1931).

It must be stated in advance that air warfare on the sea (as distinguished from that on land), in so far as airplanes are concerned, can not be supported by any war experience of value. Only the naval airship was tried out as a weapon in the World War. The losses on the German side were so great, however, that still today there is no tendency toward building naval airships in any large number, although there is available, at least in the United States, an incombustible gas (helium) and although there has since been a considerable improvement in speed, range and safety on the part of airships, which are still almost wholly of German construction. As a matter of fact, in the United States, they are already rated very high for intelligence purposes, and we are by no means saying that some military power, having at its disposal the necessary construction experience, as, for example the United States or England, might not go back to airship building in mass quantity. In view of the fact that Germany during the war built almost 70 airships, some of which, imperfect as they were, accomplished almost marvelous feats, the same thing might be done by any other of the highly industrialized great powers. By means of a much greater radius of action and carrying capacity for bombs, guns, munitions and even for airplanes, in these points at any rate the airship is still far superior to the present-day military airplane. For the present, however, the airplane must be regarded as the principal air weapon.

## II.

A number of elements are comprised in command of the sea by means of the airplane: surprise, high speed (several times greater than that of fast cruisers), a broad range of vision over great stretches of water, weapons such as bombs and torpedoes capable of inflicting damage even upon the largest battleships, as well as the possibility of moving easily in three dimensions. These undeniable qualities of the naval air weapon are opposed, however, by serious limitations in its operations. The airplane is short-winded in consequence of its mostly still quite limited time of flight (the fuel at hand is often sufficient for only a few hours); it is also incapable of seeing at night (*nachtblind*) and is much more dependent on the weather than any surface vessel. Invisibility, mist, storms, rain, and snow are an almost complete obstacle to its activity, and even clouds in otherwise clear weather con-



stitute a hindrance for various important military tasks. The usual weather of the North Sea, particularly in winter, is not "flying weather," as the World War demonstrated. Furthermore, for the average seaplane as transported on aircraft carriers and larger battleships, the sea itself is a fatal element, and at least a hostile one even for the flying boat, for on the surface of the water this latter also is helplessly inferior to any, even the smallest battleship, still more so than the submarine above water. There is still no seaplane that is absolutely "sea-worthy." It is well to bear in mind these limitations of the air arm when one wishes to form a judgment on the complicated problem of "command of the sea or command of the air."

As upon all weapons in naval warfare, so upon the air arm there must devolve in case of war tactical as well as strategical tasks, which, however, can not always be strictly differentiated. Let us consider first the tactical ones. The airplane's tactical weapons of attack and defense are, apart from the speed and the small aiming surface, which make it difficult to fire downward, its surprising arrival on the scene, against which there is no assurance, and the possibility, by means of a hit on the part of its bombs or torpedoes, of putting even the largest battleship out of commission, and in certain circumstances, of sinking it, with a relatively small allotment of men and material; but especially when the attack is carried out not by a single airplane but by groups of airplanes flying in formation. However, post-war experience in the matter of hits made on floating targets is not convincing. Airplane enthusiasts speak of 40 per cent of hits, but nothing definite is known with regard to such exercises. The bomb throwings executed in the United States, in 1920 to 1928, upon obsolete battleships riding at anchor took place at heights which were quite unusual in actual war practice (400 to 1200 meters). The newest of these ships, the "Washington," with a displacement of 33,000 tons, could not be sunk but only damaged. On the whole, 6 per cent of hits was obtained. And naturally, there was no counter-activity whatever.

Just as prior to the war, armor-plate and ordnance combatted each other in bitter competition, so it is today with the airplane and the means of defense. The latter have been perfected to an extraordinary degree, so that the airplane is compelled to climb higher and higher (4000 to 5000 meters)

in order to avoid the antiaircraft guns. On the other hand, the aiming devices of airplanes have undergone such an improvement that only 20 seconds of straight flight are now required to bring the target within bombing distance. This will be possible, however, only in flying over the target, for the airplane can not reduce its speed to that of even the fastest surface vessel without incurring the danger of promptly capsizing. Considering an altitude of 5000 meters, the ship still has 33 seconds of time in which by zigzag maneuvers to evade deadly bombs, the weight of which today in the United States has mounted to 1800 kg. If, however, the attack comes off in a nose dive—which, to be sure, presupposes great skill on the part of the pilot—in this case the ship is unable to slip aside, for the airplane is made to drop perpendicularly from a very great height and the pilot does not release the bomb until within 900 to 1000 meters, and the bomb has acquired an enormous velocity during the dive and reaches the target in a few seconds. The torpedo airplane imposes still greater demands on the nerves of the pilot. It must descend in gliding flight from a great altitude until within about 10 meters and then release the torpedo against or at right angles to the ship's course. In this position it naturally finds itself in the strongest fire of the defense artillery. The struggle against bombing and torpedo planes must be carried on by the pursuit or combat planes, which must be very fast, easily armed, and good climbers in order to force their opponents down in time. Furthermore, there are "observation planes" which during the fire of the ship's heavy artillery serve at great distances beyond the range of vision (some 18 kilometers) to observe and report the hits, for which purpose, like almost all seaplanes, they are provided with wireless apparatus.

### III.

Among the great naval powers the different types of airplanes, which almost without exception are double deckers, especially the larger ones, are based on aircraft carriers, ships of 10,000 to almost 40,000 tons displacement, which can accommodate up to 170 airplanes on huge flying decks. These ships constitute a much contested novelty in naval warfare, for they are subject to serious defects. They are undoubtedly the weakest point of a naval fleet on the high sea, since in the struggle for command of the air not only torpedo boats,

submarines and cruisers, but also all kinds of combat planes would fall first upon these ships whose long flying decks are much in the way of their artillery. The Americans want to demolish even their giant aircraft carriers and to replace them with "flying-deck cruisers" (1) with a flying deck for a smaller number of airplanes but designed to satisfy in the highest possible degree all demands upon a large cruiser. Also, of late, on almost all large battleships and armored cruisers of the great naval powers, two to four combat planes, intelligence planes, and observation planes are transported; they are started from catapults, but the ship must stop in order to take them on again. This is not necessary in the case of ships with a flying deck, which, however, are subject to the great disadvantage of a list of 5 to 6 degrees at each landing and taking off. This is perhaps the main reason for the mistrust directed against the new type of ship.

The large flying boats constitute a class by themselves; they are too large to be transported on shipboard. They are the only type of aircraft which are able to venture upon independent enterprises on the high sea, because they take along enough fuel to remain on the sea for a whole day. According to the nature of their equipment, they can be employed for combat, for information, for bombing or torpedo defense. They are still very sparingly used; but once success is attained in arming the large, very rapid, lightly armored, flying boat with a number of guns free from recoil and many machine guns and in equipping it with very strong noiseless heavy-oil motors, with a horizontal propeller for stopping quickly (autogiro) and with a great number of very heavy bombs—and the event is not to be doubted—then both the tactical fighting strength and the strategical radius of action of the air arm on the sea would be enormously heightened. For the present, however, that is still a dream of the future.

The issue of air and naval warfare depends precisely upon the solution of strategical problems. However important may be the tactical tasks of the air arm, on the still contested portion of the sea they are far surpassed by the strategical possibilities in the matter of obtaining information before the battle and the determination of the position, composition and course of the enemy fleet, in general, the keeping watch

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(1) cf. the article in No. 11, "Der Flugdeck-kreuzer," by Capt. Kuster, Ret.

over extensive areas. In this respect, in clear weather—but only in clear weather—any aircraft is at the present time far superior by day even to any fleet of cruisers. It overlooks from a relatively low altitude a territory of over 50 nautical miles, or five times the visible range from the crow's-nest of a ship. This information service as the prerequisite for the beginning of the air combat must be provided particularly by the small, very rapid but also very short-winged observation planes which make up a considerable percentage of the air forces transported on ships and aircraft carriers.

#### IV.

From the clash of the air squadrons in attack and defense, within the general plan of a strategical undertaking of the naval war, arises the struggle for the command of the air, the outcome of which will depend not only upon the quality of the material and the dash and skill of the fliers but very essentially also upon the number of airplanes employed. This has already been demonstrated by the air conflict in the land war of 1914-1918; on the sea, numbers will be all the more decisive. Hence the feverish competition in the arming of all the great powers with seaplanes. Only after the air battle has been decided can the bombing and torpedo planes be thrown in with prospect of success.

Command of the air, however, is still far from being command of the sea. The latter signifies continuous control of the sea routes and utilization of the sea area for one's own military and other purposes. The air arm, however, is by its very nature an occasional weapon of only short effectiveness. Strategical operations on the sea can not be carried out with airplanes; all that is possible is to interfere with or make ineffective the enemy's operations, and this only during the day and not too far removed from either floating or stationary land airports. Far more so than a fleet is dependent on its base is the air arm dependent on its airports. The air struggle will therefore be mainly concentrated upon the destruction of these ports. From the standpoint of sea strategy, that means defense, especially coast defense, is facilitated by the air arm, but attack made more difficult. Warfare on the high sea, however, will change but little on that account, for here the prospects for both parties are equal, in case both are provided with aircraft carriers. But the same does not hold

for coast warfare and sea warfare on waters near the coast. Before all, it will no longer be possible for a fleet to make repairs and provide for its needs undisturbed in a base attainable by the enemy fliers. This circumstance in itself, which is bound up with geographical conditions, will tend to render far more difficult the naval warfare of the future.

Now the question still arises, whether and in what measure the air arm might influence the conduct of war on commerce. Considering that, in view of the great numerical limitation of all battle fleets since the World War, war on commerce has become in all probability the primary strategical operation of naval warfare, this question becomes of decisive importance for forming a judgment of the whole problem here under discussion. In war on commerce, the airplane, in view of its general construction, can render only auxiliary service; it can never bring about the decision. It can neither serve to protect commerce, nor, with the possible exception of large flying boats, can it make war on cruisers, because it still lacks a sufficient independence of its bases. Its only possible advantage consists in acting as a far-advanced eye of the "commerce destroyer." Out of a large and slowly moving escort train, which, however, will always be well protected, it can perhaps, by good fortune, sink one ship or the other, but never destroy it. In the case of commerce ships traveling separately, however, it will be quite unable, from a great altitude, to recognize the flag, nor would it know what to do with the crew and passengers in accordance with the determinations of the fleet conferences. The trade war on the sea remains, therefore, both in attack and defense, mainly a task of the fighting forces on and under water, and not of the air arm, to which in itself all tasks of long duration are still debarred. (1)

It follows that the thought of substituting command of the air for command of the sea, such as believed in by many enthusiasts, is still for a long time out of the question. There are numberless functions in naval affairs which only a ship, never an airplane can fulfill. On the other hand, this new arm no doubt can and will strongly influence the operations of the so-called "great war," that is, of the battleship fleets, in certain military situations, especially in waters near the coasts. An attacking fleet will proceed offensively on the water,

(1) cf. on this point my contribution to "Deutsche Wehr" (Dec. 10 and 17, 1930) entitled "Der Handelskrieg zur See in einem künftigen Kriege."

but in the air must act defensively. The prospects of the defender will be better under the opposite procedure; that is, he will first employ the air combat to inflict heavy damage on the assailant, and not throw in his fleet until command of the air has been obtained, because in this way the defender, supported on the coast, will presumably have a much larger number of airplanes at his disposal. Even then, however, the final decision lies with the naval forces proper.

A quite different aspect, however, is given the problem when one of the parties is hopelessly inferior in the air or lacks the air arm altogether. It is precisely in such a menacing situation that the German fleet finds itself in case of any serious political conflict. It is not at all necessary to think of a clash with one of the great naval powers, against whose superior force the cruelly limited German fleet, is at a hopeless disadvantage. Since, however, a senseless provision of the Versailles Treaty forbids our fleet to possess either submarines or seaplanes, its situation becomes a highly dangerous one in the protection of German naval interests and all the more so in the prosecution of any serious military undertaking in German coast waters, especially in the Baltic. If the adversary has only airplanes at his disposal, he has the command of the air from the beginning, which renders exceedingly difficult, if it does not prevent, in flying weather, all daylight operations of the fleet in the small space of the Baltic. This is particularly true of the main strategical task of the German fleet, the maintenance and protection of the water connection with East Prussia, which through the senseless partition of German territory is now an island. Not until Germany possesses her own air forces can this vitally important sea route in the neighborhood of an extensive coast be maintained and protected.

This one example alone, which could easily be multiplied by others, suffices to confirm the necessity of the air arm to the German fleet itself. To carry through this demand, notwithstanding all political resistance, must be the most serious task of any responsible German government. It is not a question here of any sort of arming, such as is quite notoriously under way among our neighbors, but of the really obvious right of military equality with the other naval powers, all of which, even the smallest, are rightly devoting the greatest efforts to the air arm as the necessary supplement of naval



power. Military equality means to us a demand for self-maintenance. Not merely to raise that demand, but also to carry it through against the manifold resistance of our former enemies, there is indeed required not only a full understanding of the seriousness of the situation but also a unified will in cabinet, parliament, and people.

The bitter necessity of this supplement to our far too limited defense force, at least by means of military equality, is not a war cry but much rather a guarantee of peace in a time so confused and cleft with deep political contradictions. In such a time only one who is in a position to defend himself can exist. To this end, debates and discourses, motions and protests, are truly of no avail, but only the insight and the passionate conviction of all that we have here to do with a question of life or death for the nation. There is need of a "constructive mind," which peers into the future, as Ranke once expressed it in his unsurpassable brevity and clarity: "It is only in periods of overturn that it becomes clear whether there is still present in a nation that force by which states are built and maintained, a constructive genius which, when that which has hitherto existed falls to pieces, develops the capacity to bring forth something new and adapted to take its place."

#### **DANGERS IN ATTACHMENT OF ARTILLERY**

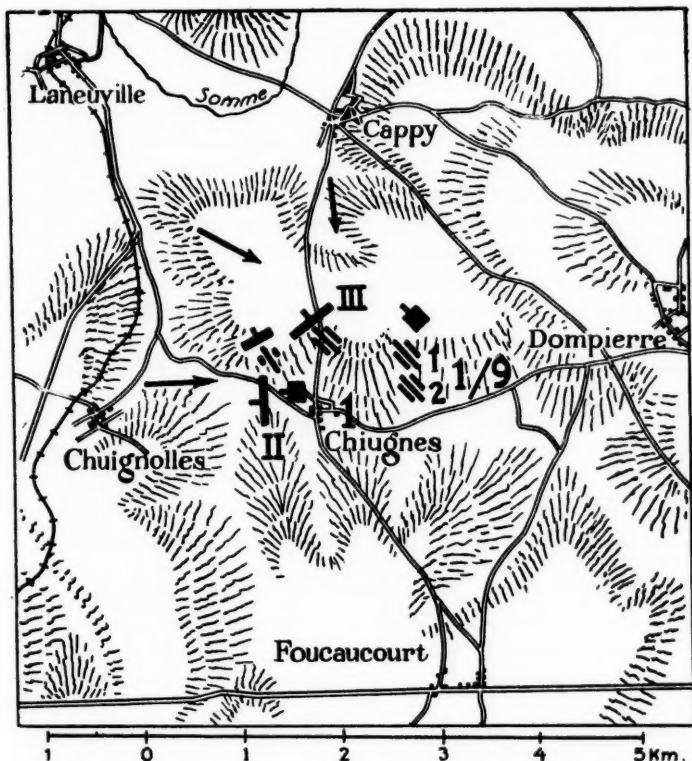
[Gefahren der Begleitartillerie. Militär-Wochenblatt, 4 January 1933.]

Abstracted by Major A. Vollmer

The permanent or temporary attachment of artillery to infantry units is a very controversial question of the day. Those of the old school demand the unified control of all the artillery of the division in the hands of the Chief of Artillery. They even look with disfavor on the necessity of attaching batteries to the advance guard, and wish to recall them whenever serious combat impends. The new school recommends an extensive decentralization for artillery. They take the attitude that henceforth the smallest complete combat unit will no longer be the infantry division, but the infantry regiment, which must obviously be organically allotted strong artillery. Between these two extreme viewpoints there are many other solutions. The advantages and disadvantages have been much discussed. We propose, at this time, merely to adduce two military historical examples from the well known race for the

sea of autumn 1914, in northern France. They show the dangers, in a crisis, of the attachment of artillery to infantry.

I



On 24 October 1914 the 2d Bavarian Infantry Division, coming from the northeast through Peronne, had reached Foucaucourt, and gained contact with the enemy late in the evening, west of that place. The next day it was again to attack and advance. To this end the 1st Bavarian Infantry at Dompierre was to start early in the morning through Chiugnes to envelop the enemy left flank, reported south of Chuignolles. To it was attached the 1st Battalion 9th Bavarian Field Artillery. At dawn on the 25th the commander of the 1st Bavarian Infantry, riding in advance, reached Chiugnes

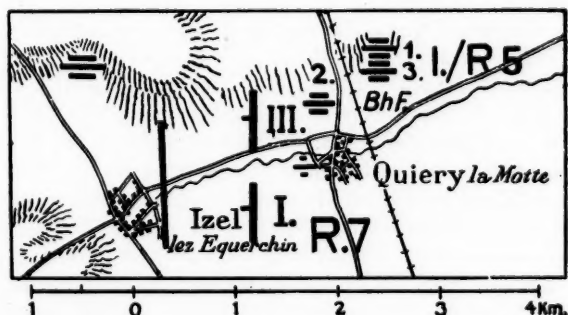
and the heights just northwest of this place, where the 11th and 12th Companies 3d Bavarian Infantry had already arrived. From here, on break of day, could be seen French riflemen in the woods, 500 to 600 meters to the northwest. They were taken by surprise by the fire of the 11th and 12th Companies. In the meantime, the commander of the 1st Bavarian Infantry had quickly brought up his machine gun company. This unit located a column of enemy cavalry in close order in a grassy depression near Chuignolles, and routed it with machine gun fire. Similarly, a French artillery battalion, clearly visible, only 1800 meters distant, was observed going at a trot toward the high ground north of that place. It was taken under fire and forced to abandon its vehicles.

It had now become evident that the enemy was north of Chuignolles as well. But the commander of the 1st Bavarian Infantry did not rate this opponent highly, as the latter had already been over-run. He hoped to sweep him out of the way quickly in order to address himself to his proper mission farther south. For this reason, he had given orders clearly to the 1st Battalion 9th Bavarian Field Artillery, which had been held up at first 800 meters east of Chiugnes, to advance to the heights north of this place. While the Field Artillery battalion commander was still busied with the necessary reconnaissance, however, the commander of the 1st Bavarian Infantry became impatient. Without knowledge or orders of the leader of the 1st Battalion 9th Field Artillery, he had the 3d Battery advance and unlimber in the open to the north of Chiugnes, east of the road leading to Cappy. When the Field Artillery Battalion commander had discovered a very favorable place in the ravine 800 m. northeast of Chiugnes, he found that he had only the 1st and 2d Batteries remaining. He put them in position at that place under complete cover. The 1st Bavarian Infantry, whose 1st Battalion had turned off in the direction of Cappy, had now reached Chiugnes.

The regimental commander now believed it too risky to advance through the place as long as the situation at Chuignolles—Laneuville was not entirely clear. It was easy to run into a wasp's nest. The battalions were therefore first placed in readiness at Chiugnes, the second at the west corner, the first on the heights north of the village. The enemy now began to turn the tables. His riflemen appear more frequently in the

woods, and in the area east of Chuignolles. Complete battalions cross the heights north of the village. The 1st Battalion 9th Bavarian Field Artillery takes all the troop movements under fire. But now at Chuignolles hostile artillery as well comes into the picture. Its position cannot be located. Its fire searches the area around Chiugnes and is uncomfortably accurate. The 1st and 2d Batteries are not disturbed. They have found that the place selected by the battalion commander is admirable. It affords complete cover and their fire does not have to be restricted nor interrupted. But the 3d Battery, put into an exposed position by the commander of 1st Bavarian Infantry, becomes an easy prey to the French artillery. It seems as if it were meant to be sacrificed. As often as it seeks to fire it is overwhelmed. Thus its combat power is almost completely exhausted and it is lost to the infantry. When at noon the 1st Bavarian Infantry was forced by the danger of envelopment to withdraw to the woods southeast of Chiugnes, there was nothing left for the 3d Battery to do except abandon its guns. They had been fixed to the place by enemy fire. The 1st and 2d Batteries came through unscathed. Their positions had been cleverly selected. Behind and in front of them were ravines. From afar the plateaus between the ravines looked like a continuous level. Even though the enemy could see smoke rise from this area he could not for a long time determine from which ravine it came. To select such a position meant years of schooling and a keen artillery sense. On the other hand, the position of the 3d Battery was crude, chosen regardless of technique.

## II



On the morning of 2 October 1914, the 5th Bavarian Reserve Division had begun the advance from Douai through Esquerchin towards Arras. The 7th Bavarian Reserve Infantry (less 2d Battalion), with 1st Battalion 5th Reserve Field Artillery attached, constituted the advance guard. At 11:30 AM, as the advance party had just left Quiéry, it ran suddenly into heavy fire. The edges of Izel and abutting heights proved to be strongly occupied. The enemy artillery especially made itself felt. It was concealed in a woods 1000 meters north of Izel, that is to say on the right flank. Its strength was estimated at three batteries. In the meantime, the advance guard and 7th Infantry commanders had lost no time in attacking. The 3d Battalion was deployed on the north, the 1st Battalion on the south of the route of advance. A hot fire fight ensued, in which the machine gun company participated. Soon considerable casualties occur, due to the fire of the batteries north of Izel.

The 1st Battalion, 5th Bavarian Reserve Field Artillery now enters the picture to counter these batteries and give the infantry a chance. To give quick support, the Battalion commander had already assigned covered positions behind the railroad northeast of Quiéry to 1st and 2d Batteries. From the high railroad embankment there was excellent observation of the flat and bare combat terrain of the advance guard. Yet, in fact, only the 1st Battery gets to its assigned position. The advance guard commander had, meanwhile, ordered the entire artillery battalion to positions in front of the road bed and near a white house 300 meters northwest of the railroad underpass, where he himself was located. The Battalion commander wished to avoid this position, which was entirely unprotected, and whose field of fire was restricted by numerous straw stacks. Even now enemy artillery fire was falling on it. But the advance guard commander insists on his decision. An unfortunate chain of circumstances resulted in the 2d Battery coming up at a run to the white house. There was nothing left but to place it in position here at once. It was trained on Izel.

But the unfortunate battery was doomed at once. The enemy artillery in the woods north of Izel concentrates on it, and in a few minutes it is devastated. Its leader falls dead from the observation platform. Since only three guns are still firing, the personnel is withdrawn so that they may not become a useless sacrifice. In the meantime the 3d Battery has joined

the 1st behind the railroad embankment. The leader of the 1st Battery has chosen the high roof of the Quiéry railroad station as observation point. This gives him a complete view of the bare rolling country north of Izel. Soon the positions of the enemy batteries there are discovered. A fire concentration is placed on them. The effect is noticeable at once. Vehicles are seen galloping across the field. The 7th Bavarian Reserve Infantry gets a breathing spell and gains ground slowly but continuously. In this case, likewise, the dispositions of the artillery commander were shown to be excellent, while the battery sacrificed by the advance guard commander attained nothing and helped the infantry not at all.

#### DISCUSSION

In each case the infantry leader was not content with prescribing the mission to the attached artillery, but, in addition, selected its position. Unquestionably, these acts were not in accord with the regulations, yet they can be understood and explained to a certain extent by the circumstances.

In the first example an unusually favorable opportunity was presented. The enemy had been surprised. Quick attack meant complete success. It therefore seemed reasonable and safe to advance at once at least one battery into an open position. But this was soon shown to be erroneous, yet the damage was done and could not be undone.

Because of the terrific effect of modern quick fire weapons the enemy will always be able to take advantage of such mistakes. The smaller the infantry unit the more danger of false estimate, because only a part of the combat situation is considered, and events happen more quickly than in large scale situations. Thus it is questionable whether small units should be trusted with much artillery. The danger exists that it be used for the purposes of the moment and that the goal be neglected. The younger the infantry leaders the less instruction they have had as to the characteristics of artillery. Its niceties are even foreign to the higher and older infantry commanders. Therefore we have a Chief of Artillery as adviser of these commanders. He is not so readily overruled as is the single artillery officer of an infantry battalion or regiment.

In the second example the exigency of the moment led the advance guard commander to expose his artillery. Close up artillery support is, to be sure, of great value to the morale

of the infantry. But if such position means sacrifice of the artillery the infantry is hindered, not helped. Moral support is not as valuable as material effect. The latter also has its value to morale. From where effective shots are fired is a secondary consideration. The infantry is a close-up weapon, the artillery a distant one.

The dangers of artillery attachment are not to be considered as always excluding it, for the artillery must support the infantry. No doubt the smaller infantry units will be equipped with more and more artillery. The infantry leader must not dabble in things which are not his business but are the concern of the artillery leader. No doubt the two examples teach that a certain amount of care must be exercised in attaching artillery to infantry. The very concern for the welfare of the infantry forces us to this conclusion.

#### EMPLOYMENT OF ARTILLERY OF A MOBILE DIVISION

[Artillerieverwendung bei einer schnellen Division. Militär-Wochenblatt, 18 January 1933]

Abstracted by Major A. Vollmer

A review of the essay in "Revista di Artiglieria e Genio" (Italy) by General Trezzani, which won a silver medal and 2500 lire, entitled "Views on the employment of artillery in the Quick Division." This division (*corpi celere*), which has aroused great interest in Italy, comprises 1 or 2 regiments Bersaglieri cyclists, 1 cavalry regiment, 1 battalion light tanks, 1 artillery regiment (half motorized, half animal-drawn). It gave a good account of itself in the last maneuvers.

The German reviewer calls this essay an excellent one. The author sets up four missions for this artillery: Reconnaissance (combined with combat), security and screening, withdrawal, pursuit. He portrays the probable course of combat in view of these missions and derives therefrom his conclusions on its proper employment. Some of the more important points in the essay are covered.

The problem of this artillery is more difficult than any other because the combat situations change quickly. The enemy targets, usually quick divisions, appear and disappear. The flanks are open and all calculation of fire must be cut short.

The artillery leader (whether battery, battalion, or regimental commander) has great demands made of him—proper tactical insight, initiative, daring, and capacity for decision.



The quick division must be able to attack in any situation and that quickly, even though operations are on a large scale, or withdrawal or defense is involved. Its first duty is to be able to cope with fast enemy units.

During reconnaissance the artillery will be with the main body. The forward reconnaissance detachments (not to be confused with German reconnaissance detachments of an infantry division) will generally function initially without artillery. Only in case such reconnaissance detachment can no longer advance will it be supported by artillery. During reconnaissance and defense it is best to keep the artillery intact at the disposal of the artillery leader, and that it be decentralized only when necessary to employ it.

If batteries have been used to support the reconnaissance detachment they must be recalled so as to be available for divisional use.

The artillery cannot follow cyclists and riders everywhere, whether it be motorized or animal-drawn. It would slow down the pace. This is a disadvantage which the leader must realize at the beginning. He must, therefore, study the map with greater care than anyone so that he will not place his batteries in positions from which they cannot be extricated. If artillery is attached to a reconnaissance detachment then the entire combat must be so conducted that the artillery will not be cut off from its ammunition supply, its routes, and its lines of communications. Combat on a reversed front is no doubt possible for a reconnaissance detachment, but it becomes highly difficult if artillery be attached. In a sense, the latter restricts the movements in many situations. If it does so, then it is in the wrong place, and would have been better off left with the main body. On the other hand, great mobility is required of the artillery. To this end there is necessary, besides the proper matériel (especially radio), the following: Observation points for forward positions near roads and highways, command posts near firing positions and near infantry leaders, limbers hard by, organization in minimum depth, more ammunition than for an infantry division. The special nature of the combat of a Quick Division requires that the infantry (cyclists or dismounted cavalry or both) be advanced frequently and that it change its positions and objectives. The artillery must be able to follow; thus the frequent change of positions becomes its peculiar forte. It must

advance by echelon and "leap frog" so that, in spite of the speed of all operations, the infantry be never without its support when decisive combat is imminent.

In general, artillery attachment is as follows: If the reconnaissance detachment be smaller than one battalion it is used without artillery; if it be a battalion or more then artillery must be attached initially, normally one battalion to one infantry regiment.

As to artillery missions and targets, these must be restricted to combatting personnel, i.e., the enemy infantry. Time, ammunition, and aviation are lacking for counter-battery. Long preparations before opening fire, as well as artillery preparation before attack, as for an infantry division, are impossible. The method of fire must be by short quick concentrations on small areas.

It will frequently be necessary for the artillery to protect the flanks. In this it must confine itself to points and small areas which the enemy has to cross if he advances against the flank. Barrage cannot be employed. Only harassing fire and annihilation fire can be used. The principle must be: immediate and speedy help by the artillery, even if piecemeal, rather than slow, carefully calculated employment thereof. Infantry-artillery cooperation will be at a minimum. Thus the artillery leader must often initiate and show the infantry the way, rather than to wait for calls by the infantry. It thus enables the infantry to concentrate its attention on utilizing the ways made for it.

The artillery of a Quick Division must be adequately equipped with maps. A map of 1:50,000 of its own country is essential.

A particular problem for the artillery will be the change from defense to attack, a frequent and typical phase of combat of a Quick Division. This is, among others, the chief reason for the necessity of centralization of the artillery in the hands of the leader of the main body of the division.

If, on the other hand, a withdrawal is in order, which is to be covered by the Quick Division, then attachment of artillery to the reconnaissance detachment is appropriate. For in this situation it must cling to the enemy as long as possible, even to becoming a sacrifice for the infantry. It must take positions close to the roads and open fire quickly on the farthest advanced enemy infantry. Often batteries must be

split into platoons. Withholding of a reserve, as in the attack, is impossible. In this situation centralization of artillery is of advantage only if a natural obstacle be afforded, or if it occurs in mountains (e.g., on a ridge which dominates both sides of a valley in which the combat is occurring).

In pursuit it is essential that the artillery leader place the proper artillery at the proper place, animal-drawn batteries where they can follow and motorized batteries where the cross-country tractors can operate. In this, artillery patrols must be far ahead (e.g., in march with the infantry point). The batteries too must be hard behind the infantry. It is almost always an error to put the artillery of a Quick Division far behind the head of the main body. The artillery in pursuit must be the means which gives the infantry new opportunity to advance.

We have given an account of the instructional parts of this essay. They were issued to elucidate the "Norme generali" (Italian F.S.R.) and references to the latter are given. We find stressed the idea of attack even in the unfortunate situation of a withdrawal. "Sempre Avanti" is the watchword of the Duce. In the new training regulations this is demanded of the artilleryman of the Quick Division. We merely testify to the correctness of the views expressed, and can learn therefrom for our theoretical studies.

#### ENGINEERS CARTRIDGE BOX

[Giberne de sapeur. By Colonel Baills. *Revue Militaire Francaise*, October 1932]

Abstracted by Major P. C. Bullard

(SUMMARY: This is the first installment of a very interesting article upon the use of engineers from the point of view of the higher commanders. Colonel Baills, in this installment, discusses at length the problem of communications in certain phases of the World War, especially as regards the employment of demolitions as an essential part of the commander's maneuver. He feels that the lack of demolitions by the Germans had a strong influence on the outcome of the first Battle of the Marne. He also touches briefly on the small probability of having large masses of mechanized forces at the outbreak of war.)

The importance of communications in war is no longer a point to be demonstrated, and this importance has never shown itself greater than during the War of 1914-1918. Very often the operations of that war suffered through lack of roads and railroads. Armies are constantly evolving toward the use of more and more material means, towards a higher

tonnage per man, towards the greater and greater speed in the movement of weapons.

The problems raised by communications will be, whether it is so desired or not, among the first considerations of the high command until such day as the aerial route shall liberate us.

It is therefore not without value to analyze:

(1) How the problem of communications was presented during the World War, what were its effects on the operations, and what more or less satisfactory solutions were found.

(2) How is the matériel of war developing, and which types of weapons can be expected to be immediately available at mobilization.

(3) Having in view the development of new war matériel, what will be the problem of the high command with respect to the reconstruction of tactical and strategical communications, both at the beginning of a campaign and later in the war when the industrial mobilization is in full operation.

(4) Finally, how this problem must be treated in the course of operations in order to obtain the greatest possible advantage from the speed of cross-country motor vehicles.

### *I.—Communications in the War of 1914-1918*

#### *A.—Concentration*

During the period of concentration no special problems developed concerning the defense or reconstruction of communications.

#### *B.—Period of Movement*

During the period of movement at the beginning of the war each side benefitted in turn from the fact that neither had had, in time of peace, a well-established doctrine for the use of demolitions. Demolitions are, however, a means of combat available at the disposition of the commander the same as are cannons. They can and should be maneuvered. Demolitions have not all the advantages of artillery fire, but, on the other hand, the hits are certain. The result of the lack of doctrine concerning the use of demolitions was that many structures were not destroyed and an enemy advance was possible without great difficulty.

1.—*German Advance to the Battle of the Marne*

a. *Roads.*—The insufficiency of demolitions in the road-net of Belgium and Northern France was among the causes which permitted the First German Army to march on Paris at the record speed of about 15 miles per day. Although the bridges over the Meuse were almost all destroyed in good time and obliged the Third, Fourth, and Fifth German Armies to force the crossing of that river, many of the bridges over the Sambre, Oise, Aisne, and Marne fell into enemy hands intact or almost so. The German advance was thus facilitated. Their advance was also greatly assisted by their ponton equipage.

Thus the problem of roads during this period presented no serious difficulties to the Germans, either in combat or pursuit.

b. *Railroads.*—Such was not the case with respect to the railroads, for the railroad demolitions were more efficacious. Still these demolitions did not render the full results which might have been possible if a doctrine of preparation, use, and execution of demolitions had been studied and used in the many peace-time war games.

In order to judge of the results obtained, the following is abstracted from the German Archives.

The railroads running from Germany into France and Belgium had an especially large number of bridges, due to the rough country and the many streams. They were therefore particularly vulnerable to demolitions which would be slow and difficult to repair. Only where surprise was obtained were the railroads captured without demolition having been accomplished.

The demolitions were generally limited to large bridges and tunnels. Rails were generally left intact, but considerable damage was done to signals, switches, telegraph and telephone systems, and water tanks.

(These demolitions are cited in some detail in Col. Baill's article, but may be summarized as below.)

In Belgium and France the demolitions in front of the German right were generally neglected, with the result that the Germans were able to use the railroads to very valuable effect, with direct connection to the German right during the Battle of the Marne. On the other hand, at the center,

the more complete demolitions forced them to carry out long and difficult repairs before being able to make rail connections, so that on September 6 the Second German Army was 100 miles from its railheads.

Later, during the race to the sea, the railroad net was sufficiently reestablished to permit easy displacement of German troops from the left flank to the right flank.

## 2.—*Battle of the Marne*

During this battle, the insufficient German demolition of roads was partly compensated by ineffective French use of engineers. Several episodes of the Battle of the Marne may well be meditated, because they demonstrate clearly that the commander must consider thoroughly the use of engineers and the results they can accomplish, as he does for the other arms of his force.

When von Kluck was threatened on his right flank, he withdrew troops from his front and concentrated his effort on the threatened flank. In the gap left between the First and Second German Armies by this withdrawal, the German front was covered only by a cavalry screen, lightly supported by infantry and artillery. Into this gap of about 25 miles the British army advanced slowly and carefully.

The German troops covering the gap were reduced by half under orders of von Quast, commanding the IX Army Corps. They had the mission of holding the Marne, blocking its crossings, and destroying its bridges (17 in number on the front in question), until definite success should be won by the right wing of the army.

It is interesting to note, according to German accounts, the inquietude of mind of the First Army commander, but his spirit of decision cannot be too greatly admired. The Germans further declare that it was lucky for the German Army that General French was not a Blucher. Still, destiny *fortunately* favored the Allies.

On 8 September General French knew that he had nothing in front of him but weak enemy forces, but he remained timid in front of the German cavalry. His III Corps reached the Marne on the evening of the 8th, at La Ferté-sous-Jouarre, but, *finding the bridges destroyed*, he did not succeed in forcing the crossing.

On 9 September the right of the First German Army was expecting to launch, about noon, its attack enveloping the left of the Sixth French Army. But at 10:30, von Kluck learned that infantry and artillery were crossing the Marne at Charly and Nanteuil. At 11:30 he ordered the retirement of his left, yet ordering the forces covering his left flank and rear to attack the British while he defeated the French Sixth Army. At 12:30 his right flank attack was developing with success, but at this moment Lt.Col. Hentsch of German General Headquarters arrived and ordered a retreat. The First Army continued its attack in order to deceive the enemy and retired during the night.

For other events had occurred along the southern front of the Second Army. General von Bulow, worried since the 7th on account of the gap existing between the First and Second Armies, learned on the morning of the 9th that numerous enemy columns were crossing the Marne between La Ferté-sous-Jouarre and Chateau-Thierry. In his report on the Battle of the Marne he declares that "at this moment there remained no doubt in his mind that the retreat of the First Army was rendered inevitable by the tactical and strategical situation, and that the Second Army was forced to retire in order to avoid having its right flank completely turned." He therefore ordered the retreat.

In short, it appears certain that it was the appearance of the Allied columns to the north of the Marne on the morning of 9 September which caused the general order of retreat of the German armies.

Now, this appearance of the English was possible only because the bridges between La Ferté-sous-Jouarre (exclusive) and Chateau-Thierry had fallen intact into the hands of the English. If the contrary had happened, as von Kluck had hoped, there is little probability that the English would have appeared north of the Marne on that day. In order to realize this, we need only remember that the British, having reached the Marne at La Ferté-sous-Jouarre on the evening of the 8th, had not been able to secure the crossing at this point until the evening of the 9th. This occurred despite the fact that the defense by the German cavalry and artillery had already been outflanked by the columns which, on the morning of the 9th, had crossed the Marne farther to the eastward.



The Marne bridges had fallen intact into the hands of the English as a result of circumstances which were very fortunate for us.

Kraewel's brigade, which had had the mission of defending the Marne between La Ferté-sous-Jouarre and Nogent-l'Artaud and of destroying the bridges, had not received the engineers which were detailed for this work. Furthermore, General Kraewel, anxious not to disperse his troops along the various crossings, had retired to Montreuil-aux-Lions, a few miles north of the Marne, on the evening of the 8th. The I and II British Army Corps arrived that same evening at Hondevillers-Bussieres, still far from the Marne, and still contained by German cavalry.

It was thus only as a result of exceptional circumstances that, when the English arrived at the Marne on the 9th, the bridges had not been destroyed.

Now, von Kluck's maneuver required, as an absolute condition of success, the certain demolition of the Marne bridges. It may well be asked why, instead of directing this demolition to be carried out by the engineers of the III and IX Army Corps, which had very probably crossed the Marne on the bridges which were to be destroyed, von Kluck had recourse to a unit of engineers from elsewhere, which unit did not arrive at its destination. He then substituted a possibility for a certainty. This is worthy of meditation, for its consequences were enormous.

### *3.—French Pursuit After the Battle of the Marne*

Several mistakes occurred among French troops during the pursuit after the Battle of the Marne, as a result of lack of foresight in properly placing engineers in the columns.

When the advance guards, Sixth French Army, had reached a line about five miles south of the Aisne, its order for the next day directed the passage of the Aisne. The order included instructions to place the units of pontoon equipage near the heads of the main bodies. This was correct in principle, and it is probable that such an order today would also prescribe aerial reconnaissance of the crossings.

But, in the IV Corps, under that army, the orders contained absolutely no instructions for the crossing. However, at eleven o'clock that night, probably after the receipt of the army order, this army corps asked for bridge equipage. Its

own equipage was probably at the rear. Here was an indubitable failure in foresight and in liaison with the engineers. Furthermore the corps order for the advance placed the engineers far to the rear, instead of pushing them well forward where they could assist the advance guards to cross immediately and establish a bridgehead. There were no engineers in the advance guard, and in the main body the engineers marched behind the artillery. As a result, the advance guard tried to cross the Aisne with its own means, using material found nearby, and the result was poor, since it was not executed by troops trained for this work. A bridge of boats was completed only on the early morning of the 13th. The ponton equipage, coming from the rear over roads which were encumbered and jammed, had the greatest difficulty in reaching the river. The erroneous placing of the engineers in the formation for the pursuit thus delayed the passage of the Aisne.

The IX Army Corps reached the Marne on the morning of the 11th without its bridge equipage, and did not cross the river until 9:00 AM next day, although the enemy did not contest the passage. Yet the river was only 200 feet wide.

The XI Army Corps seized a bridge at Chalons which was intact, but was obliged to cross with its three divisions in only one column because the ponton equipage was too far to the rear to be used. The delay of this army corps in crossing the Marne was one of the reasons which permitted the Germans to break contact and to retire without being greatly troubled.

The lesson which should be drawn from these episodes is that the commander must employ the same skill in the use of his engineers (demolitions, communications, etc.) as in the use of his other troops, for the consequences of forgetfulness may be very grave.

*4.—Operations of the Ninth German Army from  
27 October to 11 November 1914,  
on the Russian Front*

Ludendorff's brilliant use of demolitions on the Russian front in 1914 contained the germ of the devastations which the Germans later employed several times on the Western Front to our great detriment.

The Ninth Army, under the command of Hindenburg, moved into Poland from East Prussia in September 1914, to

support the Austrians in their retreat toward the Carpathian Mountains. Toward the end of the month the Germans attacked, in conjunction with an offensive return of the Austrians, and the Vistula was reached on 5 October.

At the beginning of this campaign, as soon as the German troops commenced to arrive in Poland, the staff of the Ninth Army issued orders that, at the same time as the railroads were repaired, they should be prepared for demolition in case of retreat. The directions contemplated massive demolitions at all critical points of the lines, that is to say, their complete ruin.

As soon as the Vistula was reached, the commander of the Ninth Army maneuvered his demolitions to cover his unprotected left flank. At once, railroads and bridges along his left flank were ordered destroyed, and on 10 October, when word was received of an expected Russian envelopment of the German left, orders were issued to destroy railroads in the forward part of the German zone.

The Russian attack having developed, the Germans and Austrians retreated, and the plan of demolitions entered into full play, not only on the railroads but also on the roads.

The number of demolitions was very large. On the line of the Vistula alone 30 medium-sized bridges were demolished, as well as 200 smaller bridges, 50 tons of explosive being used. Demolitions of bridges and tunnels were particularly thorough; not only were the superstructures of bridges destroyed, but endeavor also was made to demolish every pier and abutment. Railroad stations were destroyed with the same care. Not a single switch was left intact. The facilities for operation, such as water-tanks, signals, turntables, roundhouses, and shops were destroyed or were so seriously damaged that their use was prevented for a long period. All buildings at stations, storehouses, and the supplies for repair were burned or otherwise destroyed. In addition, along the track itself, every second or third joint was broken up by explosive.

Fills along the right of way were mined. All telephone and telegraph poles were felled and the wires cut.

Demolitions of such great extent could not have been executed in the brief time available during the retreat except for the fact that the army had ordered these preparations from the beginning of the advance, and that these preparations had therefore been carried out before the retreat. The

preparations included, on the one hand, the calculation and placing of charges, and, on the other hand, the elaboration of a plan, carefully prepared to the smallest detail. The work had been so well prepared that little remained but to fire the charges.

The army staff had reserved to itself the issuance of orders for executing the demolitions, especially those which fixed the areas of demolitions and the time of commencement of execution. Captain Sperr, representing the railroad service, transmitted these orders to the railroad troops. Only by such procedure was it possible to coordinate the demolitions with the intentions of the commander and with the troop movements in such way that complete and timely demolition was not compromised by premature departure of troops or by the demands of various units to use the railroads until the last moment.

In order to have time for final preparations, it was generally necessary, along a section of line to be destroyed, to stop traffic and withdraw all trains six hours before the time fixed by the army staff for commencing the demolitions. It was also indispensable to effect a close coordination between those in charge of demolitions and those operating the railroad in order to avoid premature destruction and the consequent risk of cutting off trains. With a section of track once cleared, the detachments of railroad troops distributed through the section in question commenced to place the charges, which were ignited after the passage of the "construction train," the last train. The large number of demolitions required in the stations frequently necessitated the explosion of several charges simultaneously, which was troublesome and dangerous for the workers. The principal difficulties lay in the speed with which the work had to be carried out and the necessity of accomplishing them in part at night.

The consumption of explosive was very great. The supply came from the fortresses of eastern Germany and also directly from factories in the interior. Except for a short time at the beginning, the supply was always sufficient.

The army staff had again and again emphasized in its orders that the demolitions should prevent the enemy from operating the railroads during weeks and months, yet such results appeared problematic. In the absence of large bridges or tunnels it could not be expected that the repair of the lines

would present extraordinary difficulties for the enemy. It was evident that, in order to reestablish the communications, the Russians would soon be forced to stop their advance and lose contact with the Ninth Army as it retreated into Upper Silesia; but the demolitions could not prevent the enemy from making more or less rapid temporary repairs and continuing his progression. It was therefore with much reason that the army staff wondered at the beginning if the demolitions would cause the desired effect and stop the enemy long enough to permit regrouping the Ninth Army and preparing for new operations. In fact, however, the Russians followed only very slowly.

The railroad demolitions, executed for the first time in this war on a large scale, had fully accomplished their purpose. In any case, their influence was still felt when the Germans undertook new operations and had to repair lines they had destroyed.

*C.—Period of Stabilization—Attempts at  
Penetration to 15 July 1918*

As soon as stabilization commenced in 1914, the two adversaries began to seek means of returning to the war of movement. The creation of fortified fronts and the defensive strength of the machine gun, led them to the use of greater and greater tonnage of munitions, more and more powerful artillery, and the use of mobile armored vehicles. Whereupon the battle proper became accompanied by a parallel conflict of tonnage.

The dominant idea in the penetrating attacks was to take a portion of the enemy fortified organization over a more or less wide front, then to cause the remainder to fall by maneuvering in open terrain. But this required enormous means, and from then on it could be accomplished only to the extent that communications should enable the maintenance of supply in proportion to the needs of the attacking troops.

Now, in all the penetrating battles delivered until 15 July 1918, we find constantly the same developments in the operations. At the beginning of the attacks, they gained complete tactical success. However, the conquered terrain afforded the assailants only poor communications, which were all the more precarious when the defender showed himself skillful in the art of maneuvering his demolitions. On the other hand, the defender, with his communications intact and operating

at full capacity, brought his tactical and strategic reserves to the battlefield. The deeper the attacker's penetration became, the more he was handicapped in the conflict of tonnage by the poor communications, and finally the attack died out before a defender who reinforced himself constantly and easily as long as his reserves held out. The conflict of tonnage unrolled to the advantage of the defender. The greater number of battles showed these characteristics, even when the defender lacked a doctrine of use of demolitions and let his bridges fall intact into the hands of the enemy.

Military writings furnish proof of the constantly increasing importance of the repair of communications across conquered ground during that period of the war. (This is shown by quotations from Generals Falkenhayn, Ludendorff, and von Bernhardt, commenting upon the battles of Verdun, of the Somme in March 1918, of the Lys, and of the Chemin des Dames in May 1918.)

In the German offensive of May 1918, the Germans were especially able to profit by the failure of French doctrine in the use of demolitions, such that a number of bridges over the Asine fell intact into their hands. The demolitions had been prepared for a long time, the explosive was nearby and ready, and the detachments had been designated to execute the demolitions. But the order prescribed that only the army commander or corps commander should order the execution, and that the detachment commanders should not take the initiative but should ask for instructions if necessary. The advance of the enemy was so rapid that the orders requested did not arrive until too late to prevent the bridges from falling into the hands of the enemy.

Let us consider a method of correcting this situation. It happened that, in that area, there were more bridges than were really needed, a number having been built during the preparations for a previous French offensive. Hence, some discrimination between bridges could have been based on their importance to the defense. Other bridges were useful only for lateral communications between small units and were of little or no importance to the army commander. Again, certain types of bridges, such as long, single-span bridges, result in greater disadvantage from premature destruction than do certain other types. Also bridges on trails are of less importance than those on main roads. And, especially, it

must be recognized that messages from headquarters far to the rear do not easily and quickly reach detachments stationed in the zone of the enemy's artillery preparation. Bearing in mind all these considerations, it should have been possible to discriminate between bridges and arrange a delegation of authority to lower units to execute the demolitions.

However, the German success in that attack was incomplete, and left the troops in a deep pocket with precarious communications. Supply was seriously interfered with by Allied long-range artillery fire. A single railroad was available, and it was at the mercy of a shallow Allied advance from the direction of Soissons. A German staff officer commented that "An enemy who leaves us in such a situation ought to be hung."

This situation became intolerable, and it was necessary to attack to obtain elbow room or else give up the salient. The preparation for the attack was greatly handicapped by the weakness of the communications; this caused the attack to be put off from the 10th to the 15th of July and finally to be launched with an incomplete supply of ammunition (90%).

In sum, in all attacks until 15 July 1918, the assailant suffered from the difficulties of reestablishing communications. On the other hand, the defender, thanks to the fact that his communications were intact, could, as long as he had reserves, resume the superiority in the battle of tonnage and stop up the breaches made in his front.

After 15 July 1918, the inequality of the forces of the two adversaries was such that the Germans no longer had the reserves to close the successive breaches made in their lines by the Allied armies.

#### *D.—Period of Movement After 18 July 1918*

Beginning at this time the initiative passed to the Allies. The German reserves became insufficient in view of the heavy Allied reinforcements in men and matériel. The battle of tonnage was lost.

Nevertheless, their demolitions, patiently prepared on roads and railroads, caused many difficulties to the enemy. After the war, General le Hénaff wrote: "If the enemy had continued his demolitions for 40 or 50 kilometers more, all important operations would have been completely stopped



until the spring of 1919." General Ragueneau comments in similar strain.

This seems to show that, if the Germans had not been at the end of their resources, they might have been able, thanks to the delay acquired through demolitions, to continue the war in 1919.

We should be prudent in drawing conclusions from the operations of 1918. Some see in these operations the formula for overcoming fortified fronts, whereas the truth is that these fronts gave way from an insufficiency of forces to defend them and to reestablish them when pierced. We do not know the form which the next war will take, but progress in weapons is such that we can be sure that communications will play a role of greater and greater importance.

## *II.—Improvement in Weapons*

The style tends toward the motor and the machine. Armored vehicles, offensive and defensive, are the thought of the day. The poor engineer, in face of this development, dreams of slowing their speed by machine-made obstacles.

But, in spite of such contemplated improvements, it is doubtful if armies will have at their command, at the outbreak of war, large masses of modernized tanks. (To be continued)

### **FRENCH MANEUVERS IN THE LIGHT OF EXISTING REGULATIONS**

[Die französischen Manöver im Lichte bestehender Gefechtsvorschriften. Militär-Wochenblatt, 18 December 1931]

Translated by Major A. Vollmer

The exercises of this year were of especial importance since they had direct bearing on modern combat methods. The opposition of a motorized to an ordinary division was calculated to afford experience for further development, especially in respect to the technique of leadership. Freedom of operation was necessarily restricted because it was desired that certain phases of combat be brought into prominence. The effort was to discover what changes result from motorization. In the basic French regulations, "sur l'emploi tactique des grandes unités" we constantly find the following continuity under the subject "Attack": Marche d'approche, contact, engagement, l'attaque. These are attack conceptions similar

in part to the late Austrian regulations ("Führung und gefecht . . .")

Therefore the first question was: what modification of the *marche d'approche* results from motorization? A clear cut picture of this developed in the exercises. Both sides marched on the Marne. That the motorized units always win, if the distances are not too disproportionate, is obvious. The question for the non-motorized units is merely whether they will be able to demolish the bridges early enough.

The motorized 15th Infantry Division whose motorization had extended, in the first instance, to the reconnaissance detachment, the means of transport for the artillery, and to all the trains, was reinforced by motorized combat units (tanks) and an additional motorized reconnaissance detachment. This Blue Division succeeded by surprise on 19 September in occupying the Marne bridges west of Chalons. The Red 2d Division came up too late, but succeeded in destroying the bridges southeast of Chalons. River crossings are a difficult problem for motorized troops. The mobility of such modern units is of value only when the tanks can be gotten across destroyed or inadequate bridges sufficiently early. The French maneuvers made possible an intensive study of the technique of river crossings.

After the bridges had fallen into the hands of the Blue Division the Red Division awaited the attack on terrain suited for defense. The location of the maneuvers permitted free choice and construction of positions, without restriction on account of cultivated areas.

The Blue reconnaissance detachments advanced farther to the south. Closer contact and initial skirmishes (German "Einleitungs Kämpfen"—French "engagement") occurred in which the modern types of armored cars played a leading role. In the French regulations, especially those on the infantry, it is shown how difficult it is to determine whether one has to do with a continuous enemy firing line. Mobile weapons protected by armor, in other words tanks, are well suited to gain an accurate picture of the enemy situation.

The following day contact was gained with the enemy outposts which remain part of the French defense organization. Behind the reconnaissance detachments and advance guards the main body of the Blue division was advanced to the Marne, and crossed during the night 19-20. As has already

been noted in the narrative on the maneuvers in "Militär-Wochenblatt" No. 18 of 1932, with this increase of motorization it is necessary that the Air Corps attack the very vulnerable enemy columns, and that pursuit planes and anti-aircraft protect the march. During these maneuvers such terrestrial-air battles frequently occurred.

Inasmuch as inclement weather set in towards the evening of the 20th, the leader of the exercises, General Gamelin, called a halt for the night. The continuation of the maneuvers was predicated on the assumption that the Blues had taken the Red outpost line on the evening and night of the 20th. This assumption would have been justified only in case this line had orders to withdraw when attacked in force. This interruption of the natural course of events was of no importance, inasmuch as a combat for this line is not related to the motorization problem.

On the morning of the 22d there followed the assembly for the attack against the main line of resistance. This event is noteworthy inasmuch as an assembly for attack against a position organized for protracted defense and possessing modern armament takes much time. The attacker must try to cut down this time. Here motorization affords a possibility. It is possible to shorten the time and secure surprise for the attack by bringing up by motor transport the artillery, its ammunition and that of the infantry, as well as the combatant forces (including tanks) to the point of main effort.

The Blue division, which had carried on its preliminary combat (French "engagement") on a wide front, now advanced to the attack on the right wing on a narrower front, supported by all the tanks and most of the artillery. It succeeded at this point in penetrating the enemy main line of resistance. Thereby a new problem arose for the motorized troops: the immediate exploitation of the success. It was necessary to push on vigorously with continued material support from behind. The motorization of the combat trains (small cross-country caterpillar vehicles similar to the English Carden-Lloyd tanks) and of the artillery (tractors) achieves a new importance for this purpose.

The first part of the maneuvers was nothing else than a presentation of the combat principles as laid down in the regulations. Motorization changes nothing in this except to shorten certain phases thereof. Thus mechanization and

motorization will cause to disappear the symmetrical progressive combat technique and bring about one which is short, powerful, concentrated, but interrupted by the necessary periods of preparation.

In one respect there occurred a certain departure from the former French conception. In contradistinction to England, France has heretofore conceived of the employment of tanks only in the closest cooperation with infantry and this has been shown in their construction. In these maneuvers speed tanks were dispatched on their own reconnaissance missions. This practice gave good results, especially on the second day in the vicinity of Thibie and Cheniers.

Even greater stress was laid during the second part of the maneuvers on the idea of the independent employment of armored cars. The motorized 1st Cavalry Division operated against the 2d North African Infantry Division (not motorized). The cavalry division consisted of two horse brigades and one completely motorized brigade. For this part of the maneuvers the two divisions were to operate on the open flank of the army so that the mobility of the cavalry division might become manifest. As long as the cavalry division had (besides the two mounted brigades) but one infantry regiment on trucks or "Dragons portés" it was necessary to withhold this regiment in order to throw it in at the critical place and moment. This had been shown by previous exercises. But the picture is changed as soon as there is created a motorized brigade with its own tanks which can carry on its own reconnaissance and security. Thus on the 26th we see the motorized brigade employed independently in advance of the division against Vitry-le-Francois. It encounters in the vicinity of Suippes the advance elements of a Red flank guard. The latter had the mission of providing security for the left flank of the advance of the 2d Division from Vitry-le-Francois on Ste Ménehould. This flank guard consisted in part of infantry on dragon portés. Thus in this combat two motorized units opposed each other. Since the Blue motorized brigade had its own tanks it had the advantage, and succeeded in throwing back the Reds. The reconnaissance detachment of the brigade reached Moivre but was driven back to Paix. Since the main body of the motorized brigade was at first withheld due to false information, a serious engagement did not eventualize until evening in the vicinity of Paix.

The motorized brigade was more or less entangled by these battles. In order to free it for mobile employment it was relieved on the 27th by the mounted brigades and assembled in the vicinity of Thillay-et-Bellay. The main body of the cavalry contested indecisively with the 2d Division for the heights south of the Aube. The leader of the Blue division ordered his motorized brigade to make a wide encirclement of the west wing of the 2d Division. Its execution was terminated by the leader of the exercises.

On the 28th, after the leader of the cavalry division had decided (upon a change of situation being announced by the leader of the exercises) to withdraw to a defense on the heights north of Valmy, more frontal battles resulted. The Red division succeeded in overcoming the weak Blue resistance and reaching the real main line of resistance back of the Bionne. This position was attacked by the 2d Division on the morning of the 29th. Under the cover of smoke laid by airplanes in the Bionne valley, the motorized brigade prepared to counter-attack. This was successful.

This second part of the maneuvers affords very interesting prospects for the future. We have said that the events of the first part, except for the employment of speedy tanks, did not change any ideas. The employment of independent motor units, not hitherto contemplated by the regulations, represents a change of thought. The motorized brigade is sent forward in advance; it is again withdrawn so as to be used by surprise to envelop or encircle at another point. In this the French are following the British lead. The "Krasnaja Swesda" (Red Star) (No. 164) (Soviet Russia) reports trials in Poland of motorized units embodying similar independent employment.

In the United States, on the contrary, the motorization and mechanization testing detachment at Fort Eustis has been done away with because of the idea that motorized units will operate only as part of units of all arms.

The reversal of thought on this matter in France will not only have its effect in a revision of the regulations, but also on the construction of tanks and trucks. Besides the heavy slow tanks which will remain for close cooperation with the infantry, there must be built speedy cross-country types. The hybrid types of armored cars and trucks are well known. These can be considered, however, as merely the first step.

Independent motorized units must, moreover, have available mobile antitanks. Then the question of transport of supplies must be solved. In this the first step has likewise been taken in the use of small hybrid vehicles for the combat train.

This year's maneuvers in France can be considered as the starting point of this development.

#### MODERN MOBILE UNITS\*

[Neuzeitliche schnell bewegliche Verbände. By Oberstleutnant v. Faber du Faur. Militär-Wochenblatt, 11, 18 December 1932]

Translated by Major A. Vollmer

#### I

The World War has made a controversial subject of the cavalry division. No country has come to a definite conclusion on it. This is because each year armament of all troops is being increased (machine weapons) and motorization proceeds apace. Furthermore, the air arm is constantly developing and it is able to take over many of the missions of the cavalry.

Cavalry could bring about successes as long as it could carry with it its means of mobility. When it had to fight on foot all supporting weapons had to be available to insure tactical superiority in the reconnaissance and combat areas. It did not play this role in the World War. That was partly due to trench warfare, partly to shortage of money and matériel, but chiefly because of the lack of understanding of cavalry on the part of the Supreme Command. There were at German GHQ, for example, advisers of rank and reputation for every branch except the cavalry. For this arm there was no general officer present who could advise the Supreme Command on the condition of the horses.

The post-war period has been one in which the cavalry has had to fight for its very existence. In consequence it has gained a hearing respecting new auxiliary weapons and agencies. The arm has gone so far with this in all countries that the auxiliaries even attempt to absorb it entirely. It has become a burning question whether the mounted elements can still constitute the bulwark of the cavalry division.

The purpose of this article is to consider what composition of the cavalry division would be most advantageous to

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\*[NOTE: For organization diagrams of foreign units referred to herein, see original articles in Militär-Wochenblatt.]

enable it to carry out its missions and what are the foreign indications along this line.

The primary mission of modern cavalry is its cooperation at the time when a decision is sought. Every mission of the cavalry requires extensive reconnaissance. Additional functions are: screening, delay, pursuit, covering a withdrawal, occupation and holding of areas outside of the critical one, employment as army reserve, self-sustained operations against enemy lines of communication.

These missions require a considerable combat strength in weapons and munitions. If the cavalry is not to lose its celerity and mobility it must use the motor extensively to carry this material with it.

The attempt was made during the World War to increase this combat strength in weapons and ammunition. At the same time there were initiated measures to increase its speed and mobility by attaching cyclists, armored cars and trucks. But these were but attempts. The technical means were not yet adequate to the requirements. Yet today these technical problems have been solved. The cost is still a problem. There are now also the air squadrons, which are as well, or perhaps better, suited to solve many of the missions of the mobile units.

All countries with modern armies speak of the cooperation of Air Corps and ground units. Yet they do not answer the question as to which of these is to be the mainstay and which is to be subordinated to the other. Thus air corps, motor forces, and cavalry all go their separate ways, all asserting that they can be effectual only if left independent. This has gone so far that we find Chiefs of Air Corps and of motors being no longer subordinate but coordinate with the commanders of the forces. Each branch makes a mystery of itself. But this was true in the past of armament. Past generations would be astounded to learn that operation of machine guns, flat trajectory, and high angle guns by the cavalry is now quite normal.

During the last few years in foreign armies there have emerged armored units, rapid divisions, and cavalry divisions. The first type is based entirely on the armored motor. The second represents an attempt to combine all mobile elements in one strategic unity. The third is based on pre-war principles.



The armored unit (see Sketch 1) is conceived for missions which the cavalry could not accomplish during the World War due to lack of combat power. Every cavalryman on the west front remembers the telegram from Imperial Headquarters to Marwitz Cavalry Corps: "I wish to see the cavalry behind the enemy front." Yet at the same time everyone knows that the attempts of the 7th and 9th Cavalry Divisions to do this failed on account of lack of combat power and speed. Armored units are to overcome such difficulties. These are British inventions with adequate combat power, speedy, but very expensive. Together with army and navy and air corps these armored units represent a fourth element of national defense. They are to operate in rear of the enemy concentration, and end the war before it has begun.

It is a question whether (particularly on European terrain) such an arm will be able to perform its missions. For every weapon a counterweapon is developed. Just as the cavalry could not get behind the enemy front, so also the armored car will run on to a defense which it cannot overcome alone. It will have to be supported by other speedy elements of the army. If such support is to be normal the question again arises as to which is the mainstay and which is subordinate.

For combat the armored units will have to be assigned to armies or cavalry corps. Hence their characteristics and limitations must be known to the leaders of the advance units.

The armored unit can be considered as a strategic unit. It consists of a number of tank battalions, mechanized artillery and engineers and a motorized reconnaissance detachment. Its outstanding characteristic is that it carries its means of mobility into combat. Combat strength resolves itself into number of men and length of march. The armored unit is therefore particularly suited to operate in flank and rear of the enemy. It is however needed as the mainstay of every strategic reconnaissance and has thus become an indispensable factor within the cavalry corps where it must be kept unified. It will be able to accomplish its missions by exploiting those situations where the enemy is surprised on ground favorable to the functioning of the motors. It must use its speed and prescribe the ground to the enemy. It must not shrink from taking circumlocutious routes in order to avoid terrain

where it can not bring its fire to bear quickly and where the enemy can delay it by obstacles.

Most of the missions of the armored unit will require extensive reconnaissance. This can be done early enough only by aeroplanes, due to the great average speed of armored vehicles (30 to 40 km.). Single vehicles deep in enemy country may expect to be sacrificed. The maneuver rule that such vehicles go no farther than radio transmission extends cannot hold for actual combat conditions. In actual conditions they will be shot in like iron arrows wherever the road net permits and remain in touch only through the aeroplane. An air corps liaison detachment must be with the armored unit. Thus the motor in the air and the one on the ground must be closely cooperating with the main force in the light of the strategic purpose of the latter. All mobile units must be under the responsible direction from the outset so that their greater speed can be the long arm of the units of lesser speed in rear. The proper leader is the cavalry leader. He may come from the mounted or the motor branch. He need only have the spirit of a Seydlitz or Ziethen, then he will fight where he can win.

## II

The French and Italians have both attempted to create an organically closely-knit strategic unit composed of elements with modern means of mobility. The French call this: "Cavalry Division." (Sketch 2) This name may not be justified because the mainstay thereof for reconnaissance and combat is not always composed of mounted elements but rather of armored cars and infantry on trucks (*Dragons portés*). The Italians call their analogous unit: "*Corpo celere*." (Sketch 3)

What the capabilities of these two units are is not yet clear. They have been tested in great and small maneuvers, and, though no definite conclusion has been reached, yet it has been determined that the Italian unit is too weak to accomplish strategic missions on a large scale. Results in a strategic sense may be expected only when a number of such units are combined under one leadership similar to a cavalry corps. This means furthermore the creation of a reserve such as corps troops. Thus would arise entirely new principles of organization.

If one bear in mind that speed should be employed as the long arm reaching ahead of and clearing the way for the

slower units behind, then it becomes clear which weapon becomes the basis. The French have declared for the motorized weapon and merely kept the name "cavalry division." The Italians have been more honest and have called their unit "corpo celere," combining mounted elements, cyclists, and motors equally, thus making it possible to employ any one as mainstay or auxiliary, as desired. Both solutions make decisions difficult for the leaders. Yet the purpose of a scheme of organization should be to facilitate leadership. To this idea neither the French nor Italians have paid any attention. It will probably not be recognized until a number of such units are used for strategic missions in a maneuver. Then the difficulties of leadership technique will show up.

As to the *basis*: if it is to be infantry (as the French) then the mounted troops have become superfluous. For with only two cavalry brigades in the division it does not have adequate combat strength and for reconnaissance it lacks speed. To retain it merely for secondary missions is too expensive. If, on the other hand, all the elements are mixed equally (as the Italians) the unit will always be useful, yet it will never be so well suited to achieve success as are homogeneous units such as armored cars of cavalry divisions.

If one is to combine cavalry and motor units only on occasion then the organization depends on whether it is to be employed tactically or also strategically. The smallest strategic unit is the division. There is thus the possibility of making the cavalry corps the smallest strategic unit and assigning cavalry divisions and armored units to it; or that of considering both cavalry divisions and armored elements as strategic units and giving the corps the role of an army. The latter type seems strategically preferable but only the wealthiest countries could have such an organization. The former type can be had more easily. It still permits the armored units and cavalry divisions to play a role which on account of their homogeneous composition may be of strategic value.

The cavalry division of the World War and after (as it is in Germany and eastern countries today) is conceived of as a strategic unit with strategic capabilities. (Sketch 4) Its organization and composition permits it to act independently and carry out any of the various missions in either the western or eastern theater. It is an advantage that, in the main at least, it is unified, and relies for the most part on the horse

as the means of locomotion for men and armament. The addition of cyclist battalions, motorcyclist battalions, and armored reconnaissance vehicles is not in sufficient strength to effect preponderance in reconnaissance or combat. These make the problem of leadership more difficult but may become important whenever the mounted elements become exhausted. This addition must not be considered as a substitute for the third cavalry brigade.

The value of a cavalry division, with its three cavalry brigades, does not lie in its absolute speed, but rather in that it has a mobility on the battlefield possessed by no other unit which has to leave its means of mobility behind when it goes into combat. The spirit of the organization of a cavalry division therefore must be to avoid all additions which would impede mobility on the battlefield.

If the cavalry division be kept as a strategical unit rather than giving it merely the tactical role of a mounted element, then one must give it weapons and vehicles suited to solve strategic problems but which make more difficult its tactical leadership on the battlefield.

I therefore consider it advantageous to attach to the cavalry division only those weapons and means of mobility which it needs to achieve tactical superiority in combat. The strategic employment of the cavalry arm will not be directed by the division but only by the corps. Consequently it is the latter which must have all the auxiliaries such as a third armored division, and corps troops (air corps, infantry on trucks, motorized artillery). The cavalry leaders must be trained to a faith in their own arm; they must not be taught to count on auxiliary support. The latter will not in any event fight shoulder to shoulder with it. If they do so they are not properly employed strategically.

What modern weapons and means of locomotion does a cavalry division need for tactical purposes? This question has not yet been answered in any country. Everywhere the motorized arm has gradually developed into a special arm like the cavalry, and its role of shoulder-to-shoulder support of the cavalry has been neglected. The reason for this is obvious. It is difficult to amalgamate two such divers elements under one leadership. It is difficult to coordinate horses and motors for administration and training and still effectuate the special characteristics and advantages of each. On the other hand

modern weapons and munition supply necessitate the use of motors instead of the horse, if columns are not to be lengthened by an increase of animal-drawn vehicles. It is therefore essential that a cavalry regiment include motors for tactical reasons in order to maintain its mobility.

The most suitable form of the motor in the cavalry regiment is the motorization of an entire squadron, consisting of reconnaissance vehicles, combat vehicles, and engineer vehicles. (Sketch 5) Thus the motorization within the cavalry division serves only tactical purposes, and the attachment of independent armored cars and tanks is superfluous. The cavalry division will thus acquire as facile a composition as it had in the World War, without the danger that it be rendered immobile by an enemy with modern armament. The main point about its composition is that this insures the maximum of mobility; while all weapons and means of mobility which are concerned with strategic operations (such as air corps, medium tanks, and heavy artillery) be operated by the cavalry corps. (Sketch 6)

Give to the riders what belongs to them, neither more nor less. Then the rider will again learn to rely on himself and, as during the times of the great king, will appear on the battlefield at the critical point where a decision is sought. The motor must smooth the way. It is certain that the motor will have to fight side by side with the rider; but only the reality of war will determine whether the motor can likewise serve as the long arm to be thrust effectively into the enemy's back and thus eclipse every mounted exploit.

Esprit decides in each case. This will be more easily nurtured by homogeneous units than by "rapid divisions" which have within them the germ of inadequacy, because not dominated by the spirit of any single branch. The problem of the day is to sustain the spirit of the cavalry by suitable organization, including the new modern units. No one is more capable of doing this than the cavalry itself. Let it therefore demand what is its due and put its own stamp on the new weapons.

#### **MORE INFANTRY**

[Mehr Infanterie! Militär-Wochenblatt, 18 November 1932]

Abstracted by Major A. Vollmer

Attack against a formidable enemy will succeed only when his positions are broken through. This end is gained

through the sum of the combats of man against man, or the threat thereof. This is the burden of the infantry. The other weapons are there to facilitate or make this possible for the infantry.

In defense the situation is similar. The infantry must bear the brunt. Here the other weapons are in a better position to help.

Relative to those of the other arms the casualties of the infantry are greatest. Yet during the World War the relative strength of infantry to all combatants decreased from 65-77 per cent to 50-53 per cent. This resulted largely from artillery increase born of position warfare. Field fortifications and enemy machine guns brought this about.

After the World War stress was laid on war of movement. The general military opinion is that decision in future war must be through mobile operations. Divisions, corps, and armies possess considerable artillery. In this war of movement the infantry cannot count on the same artillery support. Furthermore, the present augmented armament of infantry, including that of the enemy, strengthens the defense but makes the attack more difficult.

The relative proportion of infantry to artillery in the early phases of combat is not the important matter. What is important is the proportion in the later phases. It is not that one can have too much artillery; that can never be. But whenever the infantry has been too much reduced in strength the artillery loses in effectiveness. To maintain the infantry strength, replacements must come to the front from the rear. As long as that is possible the proper proportion can be preserved. In a division of three infantry regiments it will be possible to maintain this proportion for some time.

In the more common organization of two regiments in the front line and one in division reserve this will mean 8 rifle companies on the front line, 10 rifle companies as reserve, within the regiment, and 9 rifle companies as division reserve, 4 MG companies in the front line, 2 MG companies in reserve within the regiment, and 3 MG companies in division reserve.

We see therefore that this organization (depicted in diagram, for which see original) means that for each rifleman in the battalion front line two riflemen are dropped out to the rear, and similarly 1 heavy machine gun to the rear, for each one in the front line.

With modern fire effect this will not suffice for prolonged combat. In the units which are not in the main effort the reservoir of infantry effectives is smaller, but in the main effort, on the other hand, the greater intensity of combat makes greater casualties.

On account of the defensive power of machine guns, future mobile warfare will be more protracted than it was in the World War. No longer can the division count on gaining ground (against an enemy equal in strength) to the extent effected in the World War. One may expect the attack to be with limited objectives and so come to a halt when replacements will be needed, but these will no longer be forthcoming. This would mean premature loss of the division's inertia of attack.

In the World War 2d line divisions were available for replacement. To effect this took time, enabling the enemy to bring up reinforcements, and thus imperilling the success of an attack.

There are different ways to preserve the proportion and harmony within the division and maintain shock power longer than can be done with the present infantry strength. One is to create a 4th platoon for each rifle company and one regimental machine gun company for each infantry regiment. Thereby, for every rifleman and heavy machine gun in the front line we get an additional rifleman and heavy machine gun in rear. This improves the proportion for riflemen from 1:2 to 1:3 and for heavy machine guns from 1:1 to 1:2.

Another way is to create a 4th infantry regiment for each division. This brings about a similar improvement. The choice of ways depends on tactical considerations. In some countries regiments are being increased in strength. This is probably the cheapest solution, inasmuch as no increase of staff is involved. Tactically it is otherwise, for in the beginning of the open warfare of 1914, we found that infantry companies of 200 to 250 men and battalions of 1000 men were too large, and even with the fire effect possible at that time, could not be fully effective. Even in the later trench warfare these units were too big. The first post war changes reduced these strengths. Thus came the solution of increase in number of units (a 4th infantry regiment) rather than increased strength of units.



One might think that a division of four regiments would be awkward. But small mobile divisions have no advantage if they lack adequate combat strength. Furthermore, a division of 4 regiments will be sufficiently mobile when a part of the trains are motorized, and the many animal elements are dispensed with.

#### RUSSIAN IDEAS ON THE USE OF MODERN TANKS

[Idées russes sur l'emploi des chars modernes. By Lieut.-Colonel Mendras. Revue d'Infanterie, December 1932.]

Abstracted by Major R.C. Smith

The Russian Army is keenly interested in the modern trend of armament, mechanization, motorization, aviation, chemicals. Its spokesmen feel that they see the future more clearly than do the armies of capitalistic nations. They believe they are precursors in military thought as well as in social experiments. Their magazine "Army and Revolution," October 1932, gives a summary of their thoughts on tanks.

Tanks offer a solution for the problem of a frontal attack when no flanks are available. They can break through the enemy's line; the infantry that follows mops up and occupies the captured position. A second use of tanks is to work around the enemy flanks or penetrate deep into his position, cut his communications and take his position in reverse. These missions are suitable for independent mechanized forces that include tanks, aviation, artillery, and infantry, followed in second echelon by motorized infantry.

Modern tanks, powerful combat aviation, and massed artillery permit the offensive to pass over any phase of "nibbling" attacks; the hostile position may now be crushed almost simultaneously throughout its depth. The chief problem that faces the assailant is one of organization, of the allotment of tasks to suitable units.

The principal means of attack are:

- (1) *Leading tanks* to operate with complete independence against artillery, reserves, and command posts.
- (2) *Infantry protective tanks* that will break through the enemy position and disorganize its fire; they will operate over a depth of some 2000 meters.
- (3) *Accompanying tanks* that attack with the infantry and protect it against enemy automatic weapons.
- (4) Long range artillery for counterbattery.

(5) Artillery of close support for intimate action with infantry and tanks.

(6) Antiaircraft artillery.

(7) Combat aviation, charged with attacking infantry and reserves and with protection of attacking units from the defender's aviation.

(8) Infantry to deliver the final blow, mop up the position, and take prisoners.

The most dangerous opponent for tanks is the antitank gun. Tanks from their very nature offer poor visibility to their crews. They find it hard to locate camouflaged guns. Mine fields are easy to prepare and are hard for tanks to overcome.

*Leading tanks* must be speedy, capable of crossing wide ditches, armored against automatic weapons and shell fragments. A battalion of these tanks can overpower two battalions of artillery and could cover a front of 3 to 4 kilometers. They will be corps weapons.

*Protective tanks* must operate in close liaison with infantry and with accompanying tanks for they must furnish protection against antitank weapons for the latter. Hence, those protective tanks will belong to the division. To protect an infantry regiment attacking on a front of 1000 to 2000 meters there should be at least a company of protective tanks of four platoons; one would expect to find on such a front 12 machine guns and 6 to 8 antitank weapons distributed in depth. All such weapons should be attacked simultaneously.

*Accompanying tanks* must be closely linked with the infantry. An infantry company attacking a strong point may come against one or two machine guns and two or three automatic rifles, already partly neutralized. Two platoons of accompanying tanks should therefore be given each front-line company. Second-line companies should have one accompanying tank platoon. The entire infantry regiment will need about a battalion of accompanying tanks.

A corps front of 6000 to 8000 meters will need:

- 2 bns. *leading* tanks
- 1 bn. *protective* tanks
- 3 bns. *accompanying* tanks

This is the guiding principle for aviation: *To produce maximum effect, put all planes in the air at the same time and concentrate the action both in space and in time.* To attack an

artillery battalion that is dispersed over about 10,000 sq. meters of area with bombs that have an effective area of burst of about 30 sq. meters, one must allot a squadron. A squadron will also suffice to bomb an infantry regiment in march.

The problem of assuring an intimate liaison between all these diverse units is difficult but most important. The relative speeds of the units govern the time at which they cross the line of departure. The initial movement should be as near simultaneous as possible to prevent the enemy from concentrating his fire on a few tanks. In a particular case, the hour for crossing the line was as follows:

Leading tanks.....	4:40
Protective tanks.....	4:45
Accompanying tanks.....	4:52
Infantry.....	4:55

This schedule has the disadvantage of jamming up the front areas and causing the infantry in its approach march to be passed by the various echelons of tanks but it is considered unavoidable.

The heavy artillery will lay preparation and counter-battery fires. It will engage any targets that expose themselves during the commencement of the tank advance. Some armored and motorized batteries should be furnished to accompany the leading and protective tanks.

The aviation should strike at the moment that the heavy artillery lifts its fires because of the approach of the assaulting units.

Leading tanks will have a single objective in the enemy rear areas; as soon as this objective has been attacked, they will return at once to an area that is protected by the infantry.

The infantry should have the following characteristics:

(1) All vehicles should be cross-country type and armored. Transportation should be provided for all personnel.

(2) In addition to ordinary units, the regiment should have a reconnaissance company of three platoons (armored cars, very light tanks, caterpillar cars), a medium armored car company, a chemical company, a battery of antitank guns on motorized mounts.

The battalion should be augmented by caterpillar machine-gun carriers, a company of light tanks and motorized artil-

lery company containing antitank guns, bomb throwers, and antiaircraft guns.

(3) Combat trains should be motorized and armored of tank type. Field trains should be trucks of three axles.

(4) Artillery supporting the infantry must be armored and motorized.

Since artillery is called upon to support an attack that advances, not at a mile an hour but at six miles per hour, it must advance much more rapidly. Observation must be close to the batteries with a minimum of wire connection. It must be prepared to fire against an enemy approaching from any direction.

The French reviewer cautions that the ideas presented are admitted by the Russians to be very advanced and perhaps open to question. They do, however, give an indication of the lines along which the Red Army is thinking.

#### WITHDRAWAL

[Rückzug. Militär-Wochenblatt, 25 October 1932]

Abstracted by Major A. Vollmer

#### I

Frederick the Great said in his "Thoughts and Rules for War": "... of all military operations, withdrawals are the most difficult." He appends explicit directions for carrying out such a movement.

Present day military literature treats this difficult domain inadequately. The German Field Service Regulations deal with it in five pages against 40 for the attack. In the section "Regiment" of Part V of "Infantry Training" it does not appear at all.

For an army weak in equipment the study of withdrawal is especially necessary. On the outbreak of war a little peacetime army must cover the activities of preparedness against a numerically superior enemy. If in these early battles this army is not a master of withdrawal it can be destroyed before mobilization has been completed. But, during the further course of a campaign, as well, the withdrawal comes into use, for example, in order to carry out systematically operations on another sector of the front. The old time opprobrium connected with withdrawal is not easily overcome. But a soldier must have no other idea than that an ordered withdrawal is

necessary to the carrying out of operations and often even essential to the winning of a victory. To insure this idea two things are needed: the continual teaching of the subject and its practice in peace-time exercises. The regulations likewise must deal more intensively with this matter. The Section "Withdrawal" in F.S.R. should, like that of "Attack," be divided into "Preparation," "Execution," and "Withdrawal under special conditions."

## II

In the Section "Preparation," first of all there is the question: "Where to?" The direction is given through the strategic intention. General Field Marshal von der Goltz, in his book, "War and Army Leadership," distinguished between straight, concentric, eccentric, and double eccentric withdrawals. These are strategic ideas which do not concern the subordinates who are to follow F.S.R. and infantry training. It is to be noted here only that to take any other direction than perpendicular to the front is too difficult to promise success. General Marx properly censures (*Militär-Wochenblatt*, 1932, p. 246) those overly wise ones who say "Even after the withdrawal from the Marne, one could still have attained a 'Cannae'—one need only have withdrawn eccentrically, opened the shears and closed them again after the enemy had run in."

On the question of "how far," Clausewitz says (IV, 13) "In the nature of things a withdrawal will go to the point where the equality of forces has again been brought about, be that through reinforcements, support of fortresses, terrain features, or overextension of the enemy. The number of casualties, the extent of the reversal suffered, and the character of the enemy will determine when this will occur."

After these decisions have been made there follows the question of choice of position. F.S.R. merely says (par. 302) that the new position is located from the map. In par. 33 the importance of correct estimate of the terrain is stressed. In par. 265 a meager consideration is afforded of the principles for estimate of the terrain in the attack. In short, the withdrawal is dealt with inadequately. In par. 304 the leader is not reminded of the points to be remembered in estimate of the terrain. It says only that he shall do whatever is required. The regulations need to be augmented in respect to reconnaissance of the new position. The reconnaissance agencies within

the regiment (Arty., MGs, T.M., Signals) must cooperate. Next is the question as to trains. Peace-time exercises do not deal with these. All trains concerned should be tabulated and reckoned with. For the smooth execution of a withdrawal this is an indispensable requisite.

The question of the time for withdrawal depends on the combat situation. F.S.R. states: at night or after a combat success. But withdrawal may become necessary even under adverse conditions. Then too, the combat troops must hold until the rear area is evacuated. Thus the time of withdrawal depends on an estimate as to how long this evacuation will take. If time does not suffice for such evacuation, destruction of part of the trains off of the roads may be necessary. For a clogging of the roads by trains may bring about a panic.

### III

Withdrawal requires secrecy, use of covered routes of retreat, movement by small detachments, use of a time table.

On the front itself, other measures must be taken, such as increased artillery fire, but not to the extent of arousing suspicion, as was the case with the Russians in their withdrawals. An excellent example of a withdrawal is that of the 2d Guard Regiment on the Marne during the night of 19-20 July 1918. On the 20th, at about 8 o'clock the Americans attacked after extensive artillery preparation, and found evacuated positions (see *Militär-Wochenblatt*, No. 8, 1932, page 243).

Secrecy must extend to our troops to a certain extent. Clausewitz advised that the troops be told a withdrawal would be made in order better to attack thereafter. The British F.S.R. advise that one must not make a mystery of the matter, but must guard against revealment of plans and intention to the enemy by prisoners, spies, etc.

The next question is evacuation of the rear areas in the order of (a) troop trains, (b) medical units, (c) combat trains.

The withdrawal of the Reserve depends on its tactical mission. It may constitute the outpost of the new position. In short withdrawals this will often be near its former position. Usually, however, it takes up a rallying position. As an alternative to the latter the safety of the withdrawal may be insured by rear guards, in strength from a patrol to complete units. Their activity begins in the old position. They are taken

from the combat troops. They must have machine guns. Tanks are able to achieve a victory, delay the enemy, and facilitate the withdrawal.

The regulations (F.S.R. & Inf. Training) do not cover the School distinction of withdrawal before and after a decision has been attained. The latter is the more difficult case. It must be practiced in peace time.

As to the place of the leaders, the higher and middle commanders should withdraw to the new position but the lower commander should do so only if he is also a unit leader (such as a commander of a reinforced infantry regiment).





# Section 4

## BOOK REVIEWS

### CONTENTS

	Page
Alléhaud: <b>Motorisation et armées de demain</b> .....	105
Bacon: <b>The concise story of the Dover Patrol</b> .....	105
Beard: <b>America faces the future</b> .....	106
Frey: <b>Kut-el-Amara. Kriegsfahrten und Erinnerungsbilder aus dem Orient</b> .....	107
Fuller: <b>The foundations of the science of war</b> .....	108
Fuller: <b>War and western civilization</b> .....	109
Hall: <b>The inland water transport in Mesopotamia</b> .....	110
Hickmann: <b>Geographisch-statistischer universal atlas, 1930/31</b> .....	110
Joguet: <b>De la trouée de Belfort à Mulhouse (août 1914)</b> .....	110
Lebaud: <b>Actes de Guerre, 1914-1917</b> .....	111
Lucas: <b>Le 10<sup>e</sup> corps à la bataille de Charleroi (21, 22 &amp; 23 août 1914)</b> .....	111
Nunn: <b>Tigris gunboats</b> .....	113
Petibon: <b>La 9<sup>e</sup> division en 1918</b> .....	114
Skeen: <b>Passing it on</b> .....	114
Swinton: <b>Eyewitness</b> .....	115
v.Tschischwitz: <b>Armee und Marine bei der Eroberung der Baltischen Inseln im Oktober 1917</b> .....	116

Alléhaud, General—**Motorisation et armées de demain**. [Motorization in the army of the future.] 1929..... M 506-B4

CONTENTS: La mécanisation: La théorie de la mécanisation dans l'armée britannique; Examen critique de la théorie de la mécanisation. La motorisation: Considérations générales sur le rôle et l'influence du moteur dans l'organisation et les opérations des armées de l'avenir; Quelques données d'expérience; La division légère; La division de manoeuvre et de choc motorisée; La division de ligne; Les possibilités; Conclusion. [First Part: I. The theory of mechanization in the British Army; II. Critical examination of the theory of mechanization. Second Part: I. General considerations of the role and influence of the motor in the organization and the operations of the armies of the future; II. Some practical tests; III. The light division; IV. The division of maneuver and of shock, motorized; V. The division of the line; VI. The possibilities. Conclusion.]

Reviewed by Colonel J.A. Woodruff

This book is an excellent discussion of mechanization and motorization. It refers to and discusses many articles that have appeared in British and French periodicals in recent years on this subject, and thoroughly discusses the British maneuvers in 1927.

The author is opposed to the conception of an army entirely mechanized, but believes in the fullest possible application of motorization, to the present infantry and cavalry divisions.

The book is of value to all sections of this School and should be translated.

Bacon, Admiral Sir R.H.—**The concise story of the Dover Patrol**. 1932..... M 9403-L4-D.42

CONTENTS: Preface; Foreword; Historical; Strategic conditions; German strategy; Ships of the Patrol; The miscellaneous fleet; Trawlers and traffic; The trawlers; Cross-Channel traffic; The graveyard; Bombardments; Early morning; The incomparable Sixth Flotilla; The tribals; The barrage off the Belgian Coast; The song of the Belgian Coast Patrol; Barrages in the English Channel; The Dover Straits roulette; The drifters; Watching the Dover Straits; The great landing; The dream; Plan for blocking Ostend and Zeebrugge; Zeebrugge; Dover and Dunkirk; The tides—To Dunkirk; Small craft; Motor launches—coastal motor boats; Operations; Experience; The air services of the Dover Patrol; The strafe of the kite balloon; Recapitulation; L'Envoi; Appendix.

Reviewed by Lieutenant Colonel W.C. McChord

This work, a more condensed account than a previous publication, is largely an appreciation by its commander of the problems and difficulties involved and the means and methods of operations employed by a British naval force which, based on Dover, operated in the English Channel during the World War for the purpose of defending Allied shipping from German mine laying, submarine operations, and destroyer raids. This force also bombarded Zeebrugge and Ostende, attempted to block these harbors, and made preparations to land a force behind the German lines on the Belgian Coast then held by the enemy.

The author, Admiral Bacon, commanded the Dover Patrol from April, 1915 to approximately January, 1918, when, apparently due to a conflict of opinion with the British Admiralty, he was replaced in command.

In a foreword to the book, the Admiral of the British Grand Fleet, Earl Jellicoe, highly praises and values the work of the Dover Patrol under Admiral Bacon, upholds his decisions and operations, and derides the undue interference of the British Admiralty in these operations. This Foreword and the apparently fair-minded and logical manner in which various subjects are discussed by the author, inspires confidence in his statements of facts, expressions of opinion, and deductions.

This work should be of great interest and value to a naval officer. It is of value in presenting to any officer the problems involved, and how irregular personnel and improvised material can and must be employed for blockading and protecting a maritime area and shipping in war.

The chapter on "Strategical Conditions" contains comments of value to any strategist as to the general role and employment of the navy and its various components. The chapter on "The Grand Landing" covers the detailed thought and planning which was devoted to a very special situation for landing on a hostile shore. The chapter on "Operations" contains information of value primarily to a naval officer, but various comments and observations are well worth consideration by any officer faced with the possibility of military responsibility and decisions. The chapter "The Air Services of the Dover Patrol" outlines some employment of the aviation in connection with operations with a protective naval force.

Beard, Charles A.—**America faces the future.** 1932.....973-A

CONTENTS: Prefatory note. The new intellectual and moral climate: Challenges to the social order; A planless world, by Nicholas Murray Butler; The call of the Protestant churches; The voice of capital and labor; Must we reduce our standard of living?; Prophets without foresight; Down and out in Detroit; Can capitalism be saved?; The responsibility of bankers. Blue-prints for a planned economy: A "five-year plan" for America; Unemployment; Stabilization of industry; The public reaction to the Swope plan; Planning proposals of the Committee on continuity of business and employment of the United States Chamber of Commerce; The American Federation of Labor looks forward to planning; A demand for state action on a security wage; The monetary factor in business depressions; The advance of large-scale agriculture; Actualities of agricultural planning; The state plan of Governor Philip F. LaFollette; President Hoover's plan; The rationality of planned economy. Appendix.

This is one of the most interesting books that has appeared in recent years; a book that would have been inconceivable a few years ago. Those who questioned the all-pervading beneficence of our economic order were voices crying in the wilderness. Dr. Beard has collected statements from leaders in politics, education, business and religion asserting that all is not well. In the second part are collected various plans as to how this economic system can be improved. In this section he includes the Swope Plan, the Committee on Continuity of Business and Employment, and the plan of the American Federation of Labor.

This is pretty conclusive evidence that our most responsible leaders have abandoned the laissez-faire. Marxians might well count it a victory that the failure of laissez-faire is thus realized. A perusal of the plans show that they propose no substitution of socialism for capitalism. All retain the profit motive as the primary impetus in our economic life.

Some of the plans are startlingly progressive, particularly that of Governor LaFollette, which goes far in the direction of "modified capitalism."

Several questions present themselves. Can a "modified capitalism" be put in operation? Could "modified capitalism" iron out the business cycle? Are American leaders sufficiently committed to such a scheme to ward off economic collapse? This much seems evident: long before capitalism had shaken off the shackles of feudalism, it is being modified by social legislation, regulatory laws and other restraints, and modification of some sort will inevitably continue. The speed and the direction of this process will be determined by domestic exigencies, and capitalistic modification in the world at large. [C.A.W.]

Frey, Waldemar.—**Kut-el-Amara. Kriegsfahrten und Erinnerungsbilder aus dem Orient.** [Kut-el-Amara. War experiences in Asia Minor.] Berlin, 1932.....M 9403-J.56-M

CONTENTS: Vorwort; Vom Balkan 1915; Der Islam als religiöses und politisches system; Winter in Cospoli; Von Gallipoli nach Bagdad; Die episode von Kut-el-Amara; Anmerkungen; Beilagen; Pläne und Skizzen.

[Preface; The Balkans, 1915; Islam as a religious and political system; Winter in Cospoli; From Gallipoli to Bagdad; The episode at Kut-el-Amara; Explanatory notes; Appendix; Architectural designs and sketch maps.]

Reviewed by Lieutenant Colonel L.P. Horsfall

This book by Waldemar Frey, published recently in Berlin, is a valuable contribution to the feats of German arms during the World War. A large part of the book is dedicated to a description of the Oriental setting of the theater of war and Oriental problems. It gives, however, the principal events and the adventures of a unit of the German Heavy Artillery while associated with the Turks during 1915 and 1916. This unit was part of the artillery command at Constantinople, and later became the siege artillery at Kut-el-Amara with the Sixth Army in Mesopotamia. The author, under the pen name of Frey, was a staff officer of the German Army before the War. He now is a University Professor and has continued his studies of Oriental languages and history, which have held his interest since he was a youth. He is thoroughly familiar with the history and customs of the people of the Orient, which enables him to picture the points of interest in Turkey and Arabia with great clearness.

Unfortunately, he gives very few details of the military operations that took place in this far away corner of the Orient during the World War, and about which very little has been written. He describes very clearly the great difficulties with which the German artillerymen in Turkey had to contend, and gives some of their experiences.

In September, 1915, volunteers from various artillery regiments were assembled at Doberitz, and formed into a separate artillery command. With false passports, and in civilian clothing, they made their way through neutral Rumania to Bulgaria, and thence finally to Constantinople. There, the German officers and noncommissioned officers formed the framework for the Turkish 17th Artillery Regiment, which was part of the artillery with the Turkish Fifth Army during the Gallipoli operations. The author, as commander of this regiment, took advantage of the time that the Turkish cannoners were undergoing training, to visit the Turkish capitol and study the ruins of old Byzantium in present day Stamboul. He describes the splendor of the Eastern Roman Empire, and gives much of the history of the Ottoman Empire and the Mohammedan religion. He makes many pertinent observations on Turkish character and mentality, gained as a result of his contact with them. The reader is left in no doubt as to his poor opinion of his allies the Turks. One can easily deduce that his tour of duty with them was none too pleasant and his days were full of despair, because the Turk is opposed fundamentally to efficiency.

With the evacuation of Gallipoli by the English, the author and a part of his command were transferred to the Sixth Army in Mesopotamia. He describes his impressions of the long trip from the Bosphorous to Bag-

dad which forms the second part of his book. One can travel with him over the road through Asia Minor, following the route of Alexander the Great and the Christian crusaders. He gives full descriptions of the points of historic interest along the way. He traveled by rail, by camel over the desert trails, and on inflated sheep skin rafts down the Tigris, finally reaching Bagdad after a month of fatigue, toil and adventures.

Bagdad is the city made famous by the tales of Haeun-el-Raschid, and is located in an oasis of date palms where the roses bloom in profusion. It also is scourged with deadly diseases that make it a place of greater horror than pictured in the stories of the 1001 nights. Here the fiercest beast of the Orient, the louse, rules like a lion. The louse carries typhus fever, which laid low the gray head of Field Marshal von der Goltz in a tragic manner. The terrible spectre of this pestilence accompanied the German soldiers throughout their tour in the Orient.

The last part of the book gives the principal events of the operations in Mesopotamia and Persia, especially the part taken by the heavy artillery, during the siege of Kut-el-Amara, which closed with the surrender of over 13,000 English and Indian soldiers, under General Townshend. The German artillermen had no easy time that summer. The climate, unsanitary living conditions, lack of supplies, and equipment, and military difficulties added to their troubles.

The rest of the book is devoted to their return journey, and contains many interesting bits of conversation with various British officers who had been taken prisoner and with whom he traveled during the first part of the trip on the way back to Constantinople.

The book gives a comprehensive picture of the people of the Orient, their customs, art, history, and religion. Throughout this colorful southern country, however, are to be found filth, plague, and ghastly misery. The Germans found their lot to be no bed of roses at Kut-el-Amara.

Fuller, Col. J.F.C.: **The foundations of the science of war.** 1925 .M 501-A

CONTENTS: Preface; The alchemy of war; The method of science; The threefold order; The object of war; The instrument of war; The mental sphere of war; The moral sphere of war; The physical sphere of war; The conditions of war; The law of economy of force; The principles of war; The principles of control; The principles of pressure; The principles of resistance; The application of the science of war; Diagrams.

Reviewed by Major E.S. Johnston

In this book Major General (then Colonel) Fuller endeavored to present the relations of war the science to war the art, and to deduce the principles of war on a scientific basis. That there was and is need of such work, is evidenced by the confusion of thought that exists among military men on the subject, and by the long and time-wasting discussions and arguments that ensue whenever soldiers endeavor to dip beneath the superficialities of their profession and to discover a common base on which to build what has been called, in one of our branch schools, our individual "philosophy of war."

The civilian scientific man admits without cavil, as a preliminary to any study, the necessity of defining the terms to be used. The soldier too often airily dismisses this fatiguing process, as an unnecessary and confusing refinement. Without such a basis of logic, of course, nothing but confusion can follow.

To the civilian scientist, science is a body of knowledge, classified; art is the application of that knowledge in the realm of action. The labor that soldiers sometimes bestow in an amateur effort to define these essential terms, would be amusing (considering that civilians long ago did the work for us) if it were not pathetic. The discussions as to whether war is a science or an art (which crop up whenever we try to bore to bed-rock in our profession) are the more boresome in our case, as the disputants have rarely taken the trouble to ascertain what the word means. That war is both a science and an art (like psychology, sociology, criminology, and what not), and that war the art can only be taught by classifying our

knowledge of war (that is, through a study of war, the science), is a fact which, once recognized, would save us time and energy for useful work.

If we are to learn war by example and precept, as for any other subject, we must recognize that examples occur only at long intervals, and that even actual experience (examples) must be reviewed in the light of dispassionate criticism. Precept must be our principal instructional guide. But if these maxims (precepts) are to be of great value, they must be always true. That is the weakness of our system, that we teach by rules which are as often violated as applied, and that in the same breath we deny the validity of any rule. We know, and continually warn, that even the hoariest military maxims are subject to frequent exception. "Don't split your forces"; "avoid detachments"; "when in doubt, attack":—All are merely the most general guides, as often dangerous as helpful. The difficulty is that we can produce no substitute.

The student continually calls for a rule; we reply with a "principle" which is usually not a forthright statement of fundamental fact (for that is what a scientific "law" or "principle" is) but merely a vague foreshadowing of such a fact, of which we have caught a glimpse without capturing its essence.

Human beings properly call for rules, because human minds are made to think that way. The scientific method is to pile up all the facts, classify them, and deduce a general law which reduces them to order. Thereafter we can forget detail, remember the law, and deal with the details as they come up for solution, by applying the laws.

The difficulty is that we have not yet deduced the laws of tactics. That the French, in their inevitably logical way, are farther on the road to this goal, is evident from a reading of their discussions. That it is not impossible to deduce the laws of tactics, is evident from the fact that the laws of thinking have been formulated, even as to so vague an activity as artistic criticism.

Few of us may agree with General Fuller as to the specific principles which he formulates, but all of us should appreciate his labor as a pioneer in the field of (true) military science. His book is of value to all sections of the School, and to every officer.

Fuller, Major-General J.F.C.—**War and western civilization.** 1932. M 001

General Fuller's preface states that he proposes to examine mankind's war record during the last hundred years by way of seeing what light it throws on future prospects. The book, while always stimulating, is often erratic. General Fuller is fighting a simultaneous war against two fronts, the mob-mind and the General Staff mind.

General Staffs refused to learn the Napoleonic lesson that battles are won by artillery, and were therefore more than reluctant to avail themselves of the weapons of modern science. The origins of the tank, the gas-shell, and the submarine can all be traced back to the Crimean War. The dogma that battles were won by the infantry at the point of the bayonet emerged uncriticized; and, though the Civil War and the Franco-Prussian War suggested that fire could become too intense for any troops to face, the Russo-Turkish War of 1877 did much to rehabilitate orthodoxy. The strategists of the next generation, Marshal Foch at their head, attempt a compromise. Attacking with superior numbers could overwhelm the defenders' fire and so charge home. Sense of numbers would inspire confidence. This confidence, called "morale," could be created independent of numbers, so that a policy of attack was right in any circumstances.

The South African War proved that an attack could not be driven home against a comparatively small force who used their rifles from behind cover. The same struggle had also proved that the rifle itself was helpless against the gun; but this truth was not realized until experience brought it home in 1914. Then artillery came into its own. The wide destruction that it wrought made armies immobile. If dug-outs were impregnable muni-

tion factories were not, and it is already clear that the main thrust of the next war will be aimed directly at the civil population.

General Fuller's second thesis is that democracies make wars and make them very badly.

The American Civil War was an economic struggle. Hence its resemblance to the economic struggle of 1914 in its length, in the numbers engaged, in its rapid application of science to warfare, and in its strategy of attrition and blockade.

The soldiers had read Clausewitz and had accepted his definition of war as "a continuation of State policy by other means." Since the people were the State, the people must also be the army. The armies that met in 1914 were in every way nations in arms. If an army is the nation in arms, the nation is the army without arms. As such it is the natural and proper object of attack, preferably by the sort of gas which does not kill its victim but leaves him incapacitated. In this way the two lines of General Fuller's argument are brought to the same point.

There is nothing in the behavior of democracies to lead General Fuller to conclude that such a war of people against people as his argument foreshadows will not in fact occur. [C.A.W.]

Hall, Lieut.-Colonel L.J.—**The inland water transport in Mesopotamia.** London, 1921.....M 9403-J.56-P

CONTENTS: Preface: A short description of the waterways of Mesopotamia; Summary of events from September, 1916, to the date of the armistice; Departmental organisation; Sectional organisation; The fleet, and how it was assembled in Mesopotamia; The gunboat flotilla; The inland water transport troops; List of casualties; List of honours; Staff at conclusion of hostilities; Afterword by Brigadier-General R.H.W. Hughes; Appendices.

Reviewed by Colonel J.A. Woodruff

This volume is an excellent summary of the work done by the Inland Water Transport in Mesopotamia from August 1916 until the Armistice.

The magnitude of this work is indicated by the fact that this river organization eventually was delivering nearly 3000 tons per day at 500 miles from the base port with a fleet of nearly 2000 vessels.

The volume is well supplied with maps, charts, tables, and illustrations, and is of particular interest and value to the G-4 Section.

Hickmann, Professor.—**Geographisch-statistischer universal atlas, 1930/31.** [Geographical-statistical universal atlas, 1930-31.] Austria, 1930.....M 912-E

Reviewed by Major C.A. Willoughby

This is the revised edition of this well known work, taking cognizance of a number of new factors, due to political or economic changes, such as: the new Vatican State (Lateran Concord, Feb. 11, 1929), the reorganization of Yugoslavia (Law of 3 Oct. 1929), Rumania (Law of Jan. 7, 1930), reorganization of Soviets (Tajikian and Nachitchewan).

This "atlas" has long been a reputable reference work, condensed within small format, and equipped with a rich material in statistical summaries, graphs, and maps. The following extracts of contents indicate the wide range of information, compressed within a volume of 96 text pages (incl. tabulations) and 100 maps and diagrams: (1) The solar and planetary systems; (2) The surface of earth; (3) Climatological data; (4) Racial distribution; (5) Distribution of religion; (6) Statistics of individual states; (7) Important technological data; (8) Political economics, etc., etc.

Joguet, Commandant A.—**De la trouee de Belfort a Mulhouse (aout 1914).** [Through the gap of Belfort to Mulhouse (August 1914).] 1932.....M 9403-J.44:4-C

CONTENTS: Preface; Avant-propos; La première offensive sur Mulhouse; La deuxième offensive sur Mulhouse.



Reviewed by Colonel J.A. Woodruff

This book is a detailed account of the operations of the VII French Corps (later formed into the Army of Alsace) in two invasions of Alsace in August 1914. It is in the nature of an organization history.

It is very difficult to follow the operations with the three maps furnished.

The operations described are all at the very beginning of the World War, open warfare, and should contain many valuable lessons, but the account is so detailed that the tactical lessons are difficult to deduce.

Lebaud, Colonel.—**Actes de Guerre, 1914-1917.** [War experiences, 1914-1917.] Paris, 1932.....M 9403-E4-D-44-C

CONTENTS: Introduction; L'avant-guerre; La mobilisation Le départ; Premières visions de guerre; Le baptême du feu; La retraite; La victoire; La poursuite; La course à la mer; Stabilisation; Première offensive de Champagne; Les tranchées de Champagne; Le grand sacrifice; Verdun; Et la guerre continue; Conclusion.

Reviewed by Colonel J.A. Woodruff

This book is a war diary written during the World War by the author who was a battalion commander in the regular army before the war and later became a regimental commander.

It is a very interesting account of the War from the viewpoint of an infantry commander and lays great stress on the moral factor in war.

It is of particular interest because the author's regiment took part in the battle of Etche-Virton and was on the north flank of the Sixth French Army at the battle of the Ourcq. It took part in the battle of the Aisne and in the "race to the sea," and was in the defense of Verdun in a salient near the redoubt of Thiaumont, in 1916.

The book is well provided with sketches. It is well worth reading by any officer who can read French, and is of particular interest to the Infantry Subsection.

Lucas Colonel.—**Le 10e corps a la bataille de Charleroi (21, 22 & 23 août 1914).**\* [The X Corps at the battle of Charleroi. 21, 22, 23 August 1914.] 1930.....M 9403-J.44:4-D

CONTENTS: Note by author; Foreword; Introduction; Preliminaries. Information of the enemy received up to evening of 20 August; Situation of the Fifth Army on the evening of 20 August; The evening of 20 August. The 21st of August; The morning; The afternoon. The 22d of August: Night of 21-22 August; Morning of the 22d; The afternoon. The 23d of August: Night of 22-23 August; Morning of the 23d; The afternoon. Conclusion; Comments. Annex No. 1. Resume of order of battle of the X Corps in August, 1914; Annex No. 2. General order of 4:00 PM, 19th; Annex No. 3. General order of 2:00 PM, 20th; Annex No. 4. Personal and secret instruction, 4:00 PM, 21 August.

Reviewed by Major L.D. Davis

What stirring thoughts must have filled the minds of the French officers in the early days of August, 1914. All those who had ever given any thought (and probably all the others) to the problems of actual operations must have put renewed life into their visualization of how the war would be conducted.

Surely those officers in the Fifth Army, under a commander of the great reputation possessed by General Lanrezac, of whom Joffre, speaking of the selection of the army commanders, has written in his Memoirs, "There was no one who seemed to me more suitable for the command of the Fifth Army, whose movements would be the most intricate of all and whose role was essentially dependent on circumstances," surely these officers must have thought themselves fortunate and have felt they would see how to make a war.

Among them was a Captain Lucas who was on duty in the 3d Bureau of the X Corps staff. After the Battles of the Frontier and when a degree of quiet had come to his corps this officer took advantage of opportunities

\*[NOTE: Translation of this title, by Major L.D. Davis, is available in Library.]

to put in writing his impressions of those memorable days of late August on the Sambre. He states that so far as the records of the corps headquarters and of the 19th and 20th Divisions (these were the ones mostly concerned) permit all factual matter has been verified by reference to these records. He completed the writing of his book in January of 1915, but not until 1930 was it published.

It will be remembered that Joffre removed Lanrezac from command of the Fifth Army in September, 1914, so the reader naturally expects the author to make some reference to the difficulties which arose between the Fifth Army Commander and the general-in-chief. He does state in his book that he has no intention of taking sides for or against either one of these commanders and, having in mind all the commanders, inquires rhetorically, "do we not know that each one, whatever his place in the military hierarchy, has done thoroughly his duty and has made his decisions according to his best judgment." The author's purpose is to present a picture of the events as seen by one on duty at the headquarters of the X Corps, and in an office there which permitted close touch with affairs.

It is interesting to note that when the Fifth Army reached the Sambre River on the 20th of August, 1914, it was not known generally why the army was there. The prevailing notions previously had been centered on the possibility of a battle near Mézières on the Meuse, or on the Semoy. Not until after the author had completed his book was it learned that the Fifth Army moved to the Sambre on strong recommendation of its commander and in view of enemy information, for the purpose of "acting in concert with the English and Belgian armies against the enemy forces on the north."

On 21 August the 38th Brigade (of the 19th Division), acting as advance guard for the X Corps, encountered hostile forces on the Sambre, between Namur and Charleroi, and was driven back. Late in the afternoon the division commander ordered his other brigade, the 37th, to attack and drive the enemy beyond the Sambre. The corps commander seeing that the entire 19th Division probably would be engaged, had shortly before this directed the 20th Division, then echeloned to the left rear, to move up to support the 19th Division. Later on in the evening, the 37th Division, which had been in rear of the 20th, was ordered forward to a position in rear of the 19th.

During the night of the 21-22 orders were issued for an attack at daylight by the 19th and 20th Divisions, in the direction of the Sambre. The orders reached the brigades so late that the attack was not made at daylight. This was offset however by a heavy fog over the valley of the Sambre, but this fog in turn prevented French artillery firing in support, although heavy rifle and machine gun fire, and some artillery fire, by the Germans brought the attack to a stop by 11:00 AM. The Germans knew what they were firing at whereas the French were not certain.

Probably the most interesting development in this day's affair was the action of the commander of the 19th Division in calling on the 37th Division, about 7:00 AM, for assistance. The 19th Division had been engaged since noon the day before and was fairly well messed up. The 37th Division, although in corps reserve, sent forward a regiment which launched a strong attack, but suffered heavily and withdrew. In the afternoon the 19th Division asked the corps for reinforcements, at the same time, giving the request to the 37th Division, and again the 37th Division placed troops, including artillery, at the disposal of the 19th Division.

The recital of the operations of the 19th Division and of the 37th presents a very clear picture of piecemeal action. The use of troops from the corps reserve, even though that reserve has been moved forward with an announced purpose of being disposed to support the front line divisions, without orders from the corps should be considered most unusual. In fact the 19th Division, for its own advantage had used up no small part of the corps reserve and later this was to seriously hamper the attempt of the corps commander to reestablish the situation.

The operations of the afternoon of the 22d, the night of the 22-23, and of the following day, without going into details, may be described as

retrograde in character. The III Corps, on the left (west) of the X Corps, had not been successful and indeed, its rearward movement even anticipated that of the X Corps.

In the evening of the 23d the X Corps received a copy of the army order for operations on the 24th. This order directed withdrawal to the line: Givet—Philippeville—Merles-le-Chateau, a day's march south of the Sambre. Thus began the long retreat.

Colonel Lucas, writing in 1915, thought that the cause of the repulse of the Fifth Army, and of course the X Corps, was due to incorrect appreciation of the situation, primarily. He also includes the lack of clearly defined missions to the corps.

At 2:30 PM on the 22d the army commander visited the X Corps commander at Mettet, and as the latter was describing the violence of the German attacks, interrupted to observe that everyone was exaggerating the strength of the enemy, and that every commander imagined he was being confronted by the Guard Corps, whereas in reality the enemy had only some cavalry divisions reinforced by infantry on bicycles and in trucks. Whether the army commander believed the enemy was weak, or was merely trying to bolster up his corps commanders, no one knows. However, by 9:00 PM, 23 August, the army commander admitted enemy superiority, for the order for retirement was at that hour issued.

Instructions received at the X Corps covering operations for the 20th and 21st of August gave no guide for conduct of an affair with important hostile forces. The author states that except for routine intelligence bulletins the army commander never gave the X Corps any warning of the possibility of an enemy attack in strength. The action of the X Corps at Charleroi was fought under the army order of 19 August, 4:00 PM, which directed that its advance guard would oppose the advance of the enemy south of the Sambre, west of Namur, and that it (the X Corps) would dispose one division to support the action of the advance guard. Here one can easily find the beginning of the piecemeal action of this corps on the 21st and 22d.

With respect to the charge made by General Lanrezac that the corps did not carry out his orders properly, the author points out that the orders referred to by General Lanrezac are those contained in the "personal and secret instruction," dated at Chimay, 21 August, 4:00 PM, and not at 8:00 AM on that day, as the general has stated. It is further pointed out that when received by the X Corps, in the evening of the 21st, the action being intended for the 22d, was now impossible, since the X Corps had been undergoing an attack by strong hostile forces since noon of the 21st.

Colonel Lucas admits that in the X Corps there were errors in execution, faulty dispositions for defense of bridges, unprepared counterattacks, poor artillery support, but as already noted he lays the blame for the unsuccessful outcome of the battle to the fact that the corps fought a battle while unaware of what the army commander really wished, and consequently there was considerable looseness, or lack of coordination. He suggests that General Lanrezac had been too busy trying to bring GHQ around to his idea of the grand strategy to see that his various corps had proper and timely orders to guide them in accordance with his intentions.

And finally, the author concludes the French were doubly surprised—strategically because the concentration of the allied forces was not completed, and tactically because the German attack on the Sambre was not foreseen.

By the evening of the 23d of August 1914, there must have been many an officer in the X Corps, and the Fifth Army, whose mind was filled with doubts and wonderings concerning the nature of war, if not of the outcome of this particular one.

Nunn, Vice-Admiral Wilfrid.—**Tigris gunboats.** A narrative of the Royal Navy's co-operation with the military forces in Mesopotamia from the beginning of the War to the capture of Baghdad (1914-17). London, 1932. M 9403-J.56-M

CONTENTS: Preface. Operations leading to the capture of Basra and Kurna: War with Turkey commences; The landing in Mesopotamia; The Kurna operations. Operations leading to the surrender of Amara: Minor operations; The victory of Shaiba and successful operations on the Karun; Our advance up the Tigris in 1915. From the capture of Nasirya to the investment of Kut; The capture of Nasirya; Our first capture of Kut; The battle of Ctesiphon; The retreat from Ctesiphon; The investment of Kut. Operations for the relief of Kut: The attempts to relieve Kut; Unsuccessful efforts; The surrender of Kut. Operations leading to the capture of Baghdad: Events after the fall of Kut; Reorganization; The advance on Kut; The capture of Baghdad; Events after the occupation of Baghdad.

Reviewed by Commander R.E. Edwards

This is the story of naval operations in the Mesopotamian campaign written by Vice-Admiral Nunn, the commander of the naval force.

Though lacking in minute technical details, the story of the Tigris gunboats gives an excellent picture of naval support in operations conducted along a river. Admiral Nunn describes from the naval viewpoint the use of river gunboats in reconnaissance, in covering the flank of an army, in support of offensive and defensive operations on shore, and in pursuit of a defeated army. Mesopotamia was an unusual operation in that lack of roads and railroads confined military activities to the vicinity of rivers, but nevertheless the student of joint operations will find examples applicable to any situation in which small naval vessels may support troops operating on shore.

The campaign was noted for the effectiveness of cooperation between Army and Navy elements. Admiral Nunn's comments on the measures adopted to secure coordination and his examples of successful cooperation are of interest.

Petibon, Commandant.—**La 9e division en 1918. Etude tactique.**

[The 9th Division in 1918. Tactical study., Paris, 1931.....

M 9403-H6-C.44-G3

CONTENTS: Preface du Général Gamelin; La division dans le combat en retraite.—Noyon (mars); La division à la contre-attaque.—Epernay (juillet); La division à l'attaque dans une action offensive d'ensemble.—La Vesle; La division dans l'offensive générale.

[Preface by General Gamelin; The division in combat in retreat—Noyon (March), comments, conclusion of General Gamelin; The division in a counterattack—Epernay (July), foreword by General Gamelin, comments, tactical lessons, conclusion by General Gamelin; The division in a corps attack—the Vesle, comments, conclusions by General Gamelin; The division in a general offensive, operations between the Vesle and the Aisne, between the Aisne and the Camp of Sissonne, pursuit from the Camp of Sissonne to the Meuse, comments, conclusion by General Gamelin.]

Reviewed by Colonel J.A. Woodruff

This is an interesting and valuable tactical study of the operations of a division in the last year of the World War commencing with the German offensive of March 21, 1918. It contains some valuable conclusions as to the probable nature of operations in a war of the future. The author was G-3 of the division and General Gamelin was its commander.

The study was prepared for use in the Ecole de Guerre of Brazil when General Gamelin was Chief of the French Military Mission to Brazil and the author was on his staff.

The book contains nineteen excellent maps.

It should be of value to the Command and G-2 Sections.

Skeen, General Sir Andrew.—**Passing it on.** Short talks on tribal fighting on the North-West Frontier of India. London, 1932..M 503-B4

CONTENTS: Preface to 1st Edition; Preface to 2d Edition; General Still General; Introducing detail; Aspects of work falling to junior officers on the march; Aspects of work falling to junior officers in taking up camp; Aspects of work falling to junior officers putting up permanent pickets; Aspects of work falling to junior officers when a column moves; Aspects of work falling to junior officers in attack and withdrawal; Aspects of work falling to junior officers in foraging and demolition. Index.

This is a purely technical book, but it is one written with a skill and care, based upon an almost unequalled knowledge of the subject, which place it far above most works of its kind. General Skeen examines in turn every problem and situation with which the junior officer on the North-West Frontier is likely to be concerned, all so lucidly that the book could

not be improved, except, perhaps, by the addition of diagrams. Probably the young officer will feel a little nervous, as he reads the first few pages. General Skeen describes vividly the skill in the use of ground, the mobility, the good marksmanship, the infinite patience, the cunning of the Frontier tribesmen. He puts the Mahsud first among them, "but all are apt in war." But then he tells his readers to cheer up. At their best these tribesmen are not supermen. They can be beaten at their own game, outwitted and outfought. Incidentally he is not a believer in air action alone when dealing with mountaineers. General Skeen points out how greatly conditions have changed since his early experiences of the Frontier. He tells us that a column now moves one mile in the time its predecessors took to move ten. This is not due only to the fact that the tribesmen have modern rifles. Another cause is the vast baggage of the British, the weight of mountain-howitzer ammunition, the enormous medical equipment carried, the size of the ration—the biggest in the world—bombs, sandbags, Very lights, tools, and all sorts of things which the old columns lacked. It really comes to this, that an expedition of the ancient kind is now practically impossible. Perhaps the solution of the disarmament problem will eventually be that armies find themselves unable to move at all.

This study comes under the heading of Colonial Wars, small wars, bush warfare or guerrilla, and should be of interest to the Infantry Sub-section, as covering a comparatively rare field but one in which U.S. forces have found frequent employment. [C.A.W.]

Swinton, Major-General Sir Ernest D.—**Eyewitness.** Being personal reminiscences of certain phases of the Great War, including the genesis of the tank. London, 1932.....M 9403-E4-D.42-B92 (SW)

CONTENTS: Foreword; Prologue. A machine gun complex; The gear-box; G.H.Q.—The Marne—The Aisne; G.H.Q.—Abbeville—St. Omer; The first and second seeds; The third seed; The fourth seed; The fifth seed; The home front—"Open Sesame"; "From the realms of imagination . . ."; Back to the army; The secret area; Elveden; The tanks go into action; Good-bye to the tanks; Last days with the heavy section; Epilogue; Appendix; Index.

In this very interesting volume by Major-General Swinton, is given a full account of the origin of the tank, for the success of which he was so largely responsible.

What he saw in France started his brain working at the problem of how to overcome the German machine guns. He was easily the first in the field with the new engine of war which was to solve the problem of the break-through on the Western Front. The tank can justly claim to a large share in the final debacle. The military historian, General von Zwehl, writes: "We were not beaten by the genius of Marshal Foch, but by 'General Tank,' in other words, a new weapon of war, in conjunction with the widespread reinforcements of the Americans."

Another quotation from a French source: "A unique idea flashed into somebody's brain one day, admirably adapted to the object in view. I refer to the tank, from which victory was to come as Pallas from the head of Zeus." Jean de Pierrefeu, at French G.Q.G. Mr. Winston Churchill and the Admiralty had worked to produce a land ship; a French officer, Colonel Estienne, eventually produced the *char d'assaut*, a machine more handy perhaps than the tank.

Sir Ernest Swinton tells us how the idea of the tank originated in his brain; he had always been interested in the machine gun. When he was ordered to proceed to France as "Eyewitness," he saw that the power of the machine gun in defence was largely responsible for the state of siege warfare. Some months previous to this, he had heard of a new American invention—the Holt caterpillar tractor. The conjunction of these two items—the machine gun and the caterpillar tractor—gave birth to the tank. He got to work immediately on his arrival in London, but it was a terribly slow process to persuade the "powers that be."

It is necessary to say a word about those German machine guns which Sir Ernest was striving to destroy. The Germans were quick to recognize the lessons of the Russo-Japanese War; they almost immediately set

about forming a huge reserve of Vickers guns, and states that it is believed that by 1914 they had accumulated at least 30,000.

In England, the information made no impression on military authorities. Economy was in the air. British infantry battalions arrived in France in August 1914, with two machine guns apiece, and there were no trench mortars or grenades. The failure is accentuated by the fact that military attachés had called special attention to the subsequent increase of machine guns in the German Army.

Eventually the first, "Mother," was completed and, on 29th January, 1916, took a preliminary canter over a specially prepared course in Hatfield Park before a number of officials from the Admiralty and War Office. Lord Kitchener was skeptical, but agreed to the request for some of the new machines. Four months before these trials, Sir Ernest Swinton had written a memorandum, which shows how much was foreseen in those early days. "It was upon the lines therein laid down that the Battle of Cambrai was fought on the 20th November, 1917." At Cambrai the tanks were given their first chance. If the enemy did get wind of something, it was at the last moment, and to all intents and purposes it was a complete surprise.

No outstanding success was obtained by Divisions in the line, in 1918, without the assistance of the tanks. But there were never enough of them to go round. [C.A.W.]

v. Tschischwitz, General.—**Armee und Marine bei der Eroberung der Baltischen Inseln im Oktober 1917.** [Army and navy in the conquest of the Baltic Islands in October 1917.] Berlin, 1931.  
M 9403-L8-C.7

CONTENTS: Preface; Preceding events on the Eastern Front; Strategical importance of the Islands; Overseas expeditions; The Islands and their surroundings; The enemy and his defensive measures; The plan of operations; Landing troops, naval forces, transport fleet; The preparations; The embarkation; The crossing to Tagga Bay; The landing and events on Oct. 12th; The conquest of Oesel and the combat at the Kassar Wick; Discussion of these events; The forcing of the Straits; Arrival Behneke's raid into the Moon Sund; Discussion of operations from 16 to 18 October; The Isle of Dagoo; Why was the Russian fleet able to escape; The strategical framework; Troop transport and debarkation; The defense of the captured islands; Discussion of operations and other items; Conclusions.

Reviewed by Major H. v. Greiffenberg, German Army

The Baltic Islands dominate the entrances of the Gulf of Riga, where the Russian Baltic fleet was operating and threatening the north flank of the Eastern Front. Therefore, after the capture of Riga, German H.Q. ordered the seizing and securing of the Islands of Oesel and Moon by a combined operations of army and navy, as well as the annihilation of the Russian naval forces in the Gulf. The commanding general of the XXIII Res. Corps, General von Kathan, was appointed as commander-in-chief of this joint action, assisted by his Chief of Staff, von Tschischwitz, the author of this book.

The German landing forces consisted of the 42d Division, reinforced by the 255th Res. Infantry, 33 cyclist companies, 2 "storm companies," 5 heavy batteries, airplanes, and auxiliary weapons, with a total of 24,600 men, 8,500 horses, 40 guns, 220 machine guns, and 80 mortars. Considerable naval forces were concentrated, to transport and assist the landing troops and fight the Russian fleet. Their strength was as follows: 2 battleship squadrons, 2 reconnaissance groups (cruisers), torpedo boats, submarines and special boats for mine sweeping, airships and airplanes and a transport fleet of 19 vessels.

During the war the Baltic Islands had been fortified by the Russians, because they expected German raids against these islands and feared an attack from there in direction of Petersburg. The defense was favored by the sea and shore conditions, which made any navigation difficult and dangerous, especially because the Russians had removed all nautical signposts and had placed extensive mine fields.

The islands themselves were defended by the Baltic fleet, reinforced by British submarines, and by one infantry division, heavy coast artillery,



including a very modern battery of 30.5 cm. with a range of 28.8 km, anti-aircraft artillery, and aviation.

The German plan was to force a sudden landing at daylight, protected by battleships on the open north coast of Oesel, while smaller fleet detachments had to demonstrate on other parts of the shore and deceive the enemy as to the real direction of the attack. The operation was a complete success as it was well prepared, even though it was delayed for weeks due to the unfavorable weather. The Russians were surprised. By nightfall of the first day (Oct. 12th) the main batteries were put out of action and an ample bridgehead had been gained. During the next two days the debarkation was finished. The opposing Russian troops were beaten and cut off on all sides on the eastern and southern edge of Oesel. On October 15 the whole garrison surrendered. The following day the attack on the Isle of Moon was continued; the enemy made stubborn and brave resistance, but finally capitulated, threatened by the appearance of German warships in his rear. The third island, Dagoe, was taken without any serious fighting, and the mission of the landing force was executed. In the meantime there were skirmishes between both fleets. The Germans succeeded in sinking the battleship "Slawa," but failed to annihilate the hostile fleet, because it withdrew into the Gulf of Livland, blocking behind itself the narrow and shallow straits between the continent and the islands.

The capture of the Baltic Islands is an excellent example of good cooperation between army and navy. The losses were small, 20,130 prisoners, 141 guns and 130 machine guns taken; a brilliant success gained in a relatively short time.

Considering the lessons of this operation, do not forget that the Russians at this time were no longer a first class power. Although some units and crews did fight in a brave and desperate manner, the bulk of the Russian soldiers and sailors was war weary and morally broken by the revolution. There can be no doubt that otherwise the operation would have been much more difficult, bloodier, and much more time consuming. Nevertheless, the following lessons of this operation are of value as far as the army is concerned:

a. Surprise and deception of the enemy are essential. Months ago the Germans spread the rumor that they planned an attack against Kronstadt. The preparation and concentration of the troops and the transport fleet was made with the utmost secrecy. Airships and airplanes had to avoid the intended landing place. Submarines had carefully observed and photographed the beach and the coast batteries. During the landing period, battleships and aviation demonstrated on other parts of the islands, while on the main front near Riga a feint attack was launched.

b. Unity of command is likewise essential. Whether an army or navy officer is appointed as commander depends on the circumstances, but he should be a personality able to settle all decisive questions, while officers of both services work out the details. Liaison officers with judgement are desirable.

During the preparation time should be allowed for the practice of debarkation for men, horses, and weapons, in order to train everyone in his duties and to shorten the critical debarkation maneuver. Likewise, all commanders should be familiarized by conferences and map maneuvers with their probable missions. (Maps, panoramic sketches.)

c. The grouping of transports during the crossing and the order of debarkation is provided for by detailed regulations. Due to the weather conditions (tides, current, visibility) and the unpredictable hostile reaction, the time factors play a still more important role than they do in any land operation. Each ship commander needs a detailed plan of debarkation and directions as to what to do in case of unforeseen events.

It is more advantageous to use many small transports than a few large ones. They offer smaller targets, have less draught, and avoid serious losses in case of an accident.

Tactical and disciplinary reasons make it desirable, not to break up tactical units and to embark complete battalions, batteries, etc., on the same boat. The only exception are signal battalions, which should be



divided on different boats; first because they are needed in all phases of the landing and second, in order not to lose all communication agencies, if the ship sinks.

The debarkation of horses is difficult and takes much time; therefore it is more suitable to land cyclists first and horses later, after having gained a bridgehead. All mounted commanders should be provided with cycles until their horses arrive.

d. Initial communication between the commander of the whole and the landing troops must be maintained by flags, signal lamps, cable, radio, and boats. The organization of wireless service requires special care, to prevent interference between navy, army, and aviation stations. Main and special wave-lengths should be fixed; restriction in the use of wireless traffic is vital.

e. Infantry, machine guns, cyclists, and some signal and medical agencies should be landed with the first wave. Immediately on landing, all troops should clear the beaches, organize battle formations, and move forward according to schedule. Every accumulation on the beach should be strictly avoided. Only one officer with a few assistants remains on each landing beach to direct the following echelons:

A reserve or Class I supply should be provided on each ship, in case the debarkation is delayed, or other demands occur (e.g., supply for prisoners).

The cargo of supply and ammunition should be considered with the following points of view: how can the loading capacity and ballast of the crafts be best utilized; which kinds of supplies are needed first and therefore should be stored on top; how can the explosion of ammunition be restricted to a minimum in case of a mine or torpedo.

## Section 5

### LIBRARY BULLETIN

BOOKS ADDED TO THE LIBRARY SINCE DECEMBER 1932

- Adams: **The march of democracy.** Vol. I 1932 [M 973-C]
- Aeronautical Chamber of Commerce of America: **Aircraft year book, 1930, 1931, 1932.** [M 603]
- Allehaut: **Motorisation et armée de demain.** [Motorization in the army of the future.] 1929 [M 506-B4]
- Army War College, 2d Div. Hist. Sec.: **Translations, War Diaries of German Units opposed to the Second Division (Regular), 1918—Chateau Thierry.** Vol. IV. 1932 [M 9403-H6-C.73-G3-C2D]
- Astouin: **Le train des équipages dans les expéditions coloniales.** [Combat field trains in colonial expeditions, 1830-1930.] 1931 [M 504-D]
- Bartholomew: **The graphic atlas of the world.** 1932 [912]
- Bassères: **Le service de santé de la III<sup>e</sup> armée pendant la bataille de France.** [Medical service of the Third Army during the battle of France, March 21-August 10, 1918.] 1922 [M 9403-H4-G]
- Beck:
- The Constitution of the United States. Yesterday, today and tomorrow.** 1932 [342.73]
- Our wonderland of bureaucracy.** 1932 [353]
- Bell: **A review of the civil administration of Mesopotamia.** 1920 [M 9403-J.56-M]
- Blin: **Aperçu sur la guerre 1914-1918.** [Notes on the War, 1914-1918.] 1932 [M 9403-E4-D.44-C]
- Bulow: **Memoirs of Prince von Bulow.** Vol. IV: Early years and diplomatic service, 1849-1897. Trans. from the German. 1932 [943-B92 (BU)]
- Chase: **A new deal.** 1932 [330]
- Clark: **The costs of the World War to the American people.** (Economic & Social History of World War, American series.) 1931 [M 4903-C8-G3-C.73]
- Commerce, Dept. of. Bureau of the Census: **Fifteenth decennial census of the United States: 1930. Population.** Vol. III: Reports by States. 1932 [310]
- Commerce, Dept. of. Bureau of Foreign & Domestic Commerce:
- Bolivia: A commercial and industrial handbook.** 1921 [984]
- Commerce yearbook, 1932:** Vol. I, United States. 1932 [M 009-D1]
- Motor roads in Brazil, 1931.** 1931 [388]
- Nicaragua: Commercial and economic survey.** 1927 [972.85]
- Paraguay. A commercial handbook.** 1920 [989]
- Railways in Mexico.** 1925 [656]
- Railways of South America:** Part I. Argentina; Part II. Bolivia, Columbia, Ecuador, the Guianas, Paraguay, Peru, Uruguay, and Venezuela; Part III. Chile. 1930 [656]
- Travel routes and costs in Latin America.** 1930 [380]
- Congress:
- Documents by War Policies Commission, additional documents in connection with study made by commission.** 1932 [M 105-C.73]
- Official Congressional Directory, 1931 & 1932.** [328.736]
- Conneau: **Historique des corps de cavalerie commandés par le général Conneau, du 14 août 1914 au 2 mars 1917, rédigé sous la haute direction du général Conneau.** [History of the Cavalry Corps Conneau, 14 August 1914-March 2, 1917.] 1924 [M 9403-H6-C.44-H3-C (CO) C]
- Cornelius: **Cannae. Das militärische und das literarische problem.** [Cannae: The military and literary problem.] 1932 [M 939-731]
- Dahlberg: **Jobs, machines and capitalism.** 1932 [331]

Delage: **The tragedy of the Dardanelles.** 1932 [M 9403-J.56-D]

Delest: **Tactique des transports automobiles et de la circulation en campagne.** [Tactics of motor transport and circulation in campaign.] In 2 vols. 1932 [M 504-D]

Delmas: **L'infanterie de la victoire, 1918. Avec le XXe corps.** [With the XX Corps in Flanders, the Marne, Reims, the Vesle, and "Hunding" Line.] 1932 [M 9403-G4-C.44]

Douhet: **La guerre de l'air.** [The war in the air.] 1932 [M 9403-G9-J]

Dulles: **America in the Pacific, a century of expansion.** 1932 [990.0]

France. Ministère de la Guerre:

**Instruction provisoire du 6 octobre 1921 sur l'emploi tactique des grandes unités.** [Provisional regulations for the tactical employment of large units.] 1932 [M 506-A4.44]

**Instruction provisoire sur la liaison et les transmissions en campagne.** [Provisional regulations for liaison and communications in campaign. Annex No. 2. Tactical employment of large units.] 1932 [M 506-A4.44]

**Instruction provisoire sur l'organisation des communications et des transports militaires en temps de guerre.** [Provisional instructions on the organization of communications and military transport in war time.] 1930 [M 504-D1.44]

**Instruction provisoire sur la protection contre les gaz de combat.** [Provisional regulations for antigas defense. Annex No. 7: Tactical employment of large units.] 1931 [M 506-A4.44]

**Instruction sur l'organisation et le fonctionnement des états-majors en campagne.** [Organization and function of General Staffs in campaign.] 1924 [M 505-D8-A.44]

**Instruction provisoire sur la recherche et l'interprétation des renseignements.** [Provisional regulations for collection and interpretation of information. Annex 4 to Tactical Employment of Large Units.] 1931 [M 505-E5-C4.44]

**Instruction provisoire sur le service en campagne.** [Field service regulations. Annex No. 1: Provisional instructions for tactical employment of large units.] 1925 [M 506-A4.44]

**Instruction sur l'emploi des chars de combat.** [Regulations for employment of tanks.] n.d. [M 405-J4]

**Instruction sur l'organisation et le fonctionnement du Service de Santé de l'Armée en campagne.** [Organization and operations, Army Medical Service.] 1932 [M 421-J1.44]

**Manuel de transmissions pour troupes de toutes armes. Instruction technique Règlement d'exploitation des transmissions.** [Signal communications. Technical instruction.] 1928 [M 505-G]

**Notice provisoire les bataillons de mitrailleurs. Annexe XIII, a la 2e partie du règlement provisoire de manœuvre d'infanterie du 1er février 1920.** [Infantry field service regulations. Annex XIII: Employment of machine gun battalions.] 1920 [M 404-J1-C3-G.44]

**Instruction provisoire sur l'organisation du terrain. Annexe No. 3, Première & Deuxième partie.** [Provisional instructions, organization of the ground. Annex No. 3, Parts 1 & 2.] n.d. [M 503-F1-C.44]

**Règlement de manœuvre de l'artillerie. Deuxième partie: L'Artillerie au combat.** [Regulations for field artillery. Part II: Artillery combat. Annex: Service of information.] n.d. [M 407-J1-C.44]

**Règlement des unités de chars légers. Première partie: Instruction technique.** [Regulations for light tank units. Vol. I: Technical instruction.] 1930 [M 405-J4]

**Règlement de la Cavalerie: 3e partie: Service de la Cavalerie en campagne.** [Field service regulations, cavalry. Part III: Cavalry in campaign.] 1930 [M 406-G.44-A]

**Règlement de l'infanterie: 1re partie—Instruction technique; 2e partie—Combat 3e partie—Service en campagne.** [Infantry regulations. Part I: Technique; Part II: Combat; Part III: Field service.] n.d. [M 404-G.44]

France. Ministère de l'Intérieur: **Instruction pratique sur la défense passive contre les attaques aériennes.** [Practical hints for antiaircraft defense (passive).] In 2 parts. 1932 [M 503-C6]

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## Section 6

### SUBJECT INDEX

In this category the subject headings are arranged, alphabetically, according to the Library system of subject-indexing books and periodicals. All military subjects are grouped under certain main headings: ARMIES (A); CAVALRY (C); JOINT OPERATIONS (J); NAVIES (N); WARS (W), and these, in turn, are divided into certain subheadings pertaining to the major group, viz.:

- |  |  |
|--|--|
| <p><b>A</b></p> <p>Air Arm</p> <p>Antiaircraft Defense</p> <p>Armies (See country)</p> <p style="padding-left: 20px;">Command &amp; Staff</p> <p style="padding-left: 20px;">Mobilization</p> <p style="padding-left: 20px;">Organization &amp; Equipment</p> <p style="padding-left: 20px;">Training</p> <p>Armament</p> <p>Armored cars</p> <p>Art of War Strategy</p> <p>Artillery (Other Arms, similarly)</p> <p style="padding-left: 20px;">Command &amp; Staff</p> <p style="padding-left: 20px;">Organization &amp; Equipment</p> <p style="padding-left: 20px;">Training Tactics</p> <p>Antiaircraft Artillery</p> <p><b>B</b></p> <p><b>C</b></p> <p>Cavalry</p> <p>Chemical Warfare Service</p> <p>Coast Artillery</p> <p>Command, Staff &amp; Logistics</p> <p><b>D</b></p> <p>Disarmament</p> <p><b>E</b></p> <p>Engineers</p> <p><b>F</b></p> <p>Fortifications, Field</p> <p>France (Army of)</p> <p><b>G</b></p> <p>Geography (Military)</p> <p>Germany (Army of)</p> <p>Great Britain (Army of)</p> <p><b>H</b></p> <p>History (General)</p> <p><b>I</b></p> <p>Infantry</p> <p>Intelligence</p> <p>International Relations</p> <p>Italy (Army of)</p> <p><b>J</b></p> <p>Japan (Army of)</p> <p>Joint Operations</p> <p><b>K</b></p> <p><b>L</b></p> <p>Large Units, Tactical functions</p> <p style="padding-left: 20px;">Army, Corps &amp; Divisions</p> <p>Law, Military &amp; International</p> | <p><b>M</b></p> <p>Machine guns</p> <p>Maneuvers, etc.</p> <p>Marine Corps</p> <p>Mechanization</p> <p>Medical Service</p> <p>Motorization</p> <p><b>N</b></p> <p>Naval Warfare</p> <p>Navies (See country)</p> <p><b>O</b></p> <p>Ordnance Service</p> <p>Overseas Expeditions</p> <p><b>P</b></p> <p><b>Q</b></p> <p>Quartermaster Service</p> <p><b>R</b></p> <p><b>S</b></p> <p>Signal Service</p> <p>Supply</p> <p><b>T</b></p> <p>Tactics Operations</p> <p style="padding-left: 20px;">General topics</p> <p style="padding-left: 20px;">Defensive combat</p> <p style="padding-left: 20px;">Offensive combat</p> <p style="padding-left: 20px;">Reconnaissance</p> <p style="padding-left: 20px;">Special warfare (Colonial, etc.)</p> <p style="padding-left: 20px;">Troop movements</p> <p>Tanks</p> <p style="padding-left: 20px;">Antitank defense</p> <p>Transportation</p> <p><b>U</b></p> <p>United States (Army of)</p> <p><b>V</b></p> <p>Veterinary Service</p> <p><b>W</b></p> <p>Wars (Ancient, Medieval, Modern)</p> <p>World War</p> <p style="padding-left: 20px;">E—General Military History</p> <p style="padding-left: 20px;">F—Zone of Interior</p> <p style="padding-left: 20px;">J—Campaigns &amp; battles</p> <p style="padding-left: 20px;">L—Naval History</p> <p><b>X</b></p> <p><b>Y</b></p> <p><b>Z</b></p> |
|--|--|

## AIR-ART

### A

#### AIR ARM

##### Command & Staff

- The role of naval airships. 26:(8)
- Opinion of Italo Balbo. 61:(5)
- Refutations of a new doctrine of war. 60:(17)
- Command of the sea or command of the air? See Section 3]

##### Organization & Equipment

- Flying radio equipment. 4:(14)
- The cross-country travel kit. 5:(20)
- Army Air Corps. 5:(19)
- Flying boat or aircraft-carrier? 8:(9)
- Air Corps organization. 5:(30)
- The importance of incendiaries in aerial warfare. 30:(6)
- Aerial survey. 30:(17) (69) (102)
- The question of bomb diving. 30:(29)
- England: A searchlight airplane spotter. 45:(9)
- Russia: The air forces of Soviet Russia. 0:(16)

[WD]

- Aircraft. Noise—its measurement and suppression. 53:(4)
- Noise and wireless reception in aircraft. 53:(5)
- The Paris aero exhibition. 53:(6)

##### Training Tactics

- Maneuvers to illustrate passive defense against air attack, held at Pas-de-Calais. 13:(4)
- Happy landings. 40:(3)
- Possible results had modern air reconnaissance existed in 1914. 26:(3)
- Glider school. 61:(15)
- Air squadron operations. 30:(42)
- The Parisian air exposition 1932. 30:(53)
- Mass employment in aerial warfare. 30:(76)
- Coastal defense and aerial forces. 45:(4)
- France. Aerial maneuvers. 45:(5)
- Spain: The aerial problem in its defensive aspect. 45:(6)
- Outlines for the formation of the plan of instruction of the military school of aviation. 60:(3)
- Aerial warfare. 46:(1)
- Air attack on warships. 8:(22)
- French naval airship service. 8:(29)
- The air war and the home territory of Germany. 19:(10)
- Tactics of large aircraft forces. 33:(28)
- The present status of air navigation. 33:(30)
- Aircraft and antiaircraft. The great aerial maneuvers in Italy. 46:(28)
- The future development of night flying. 53:(3)
- Psychology—III. Character and the daily life. 53:(7)
- Command of the sea or command of the air. [See Section 3]

#### ANIMALS

- An eye for a horse. 16:(2)
- The breeding of horses in Czechoslovakia and Switzerland. 48:(3)
- From the workshop of the troops: Draft horses. 30:(20)
- Reflections with reference to mounted instruction. 46:(17) (27)
- The horse in the 1932 Olympiad. 15:(7)

#### ANTIAIRCRAFT DEFENSE

- Machine guns as antiaircraft weapons. 30:(49)
- Terrestrial means of antiaircraft defense. 46:(20)

#### ARGENTINA (ARMY OF)

- Aerial warfare. 46:(1)
- Applied and formal tactical problem. 46:(2)
- Organic problems. 46:(2)

#### ARMAMENT

- A vindication of force. 10:(7)
- Gun versus small arm. The story of an age-long rivalry, and its moral. 10:(10)
- Armor versus bullets. 9:(4)
- The ballistic efficiency of guns. 9:(6)
- Doctor Gerlich's achievement. 9:(11)

- From the workshop of the troops: Fleetin<sup>g</sup> targets for the trench mortars. 30:(85)
- The Browning light machine gun. 15:(10)
- Debunking Mar's newest toys. 17:(1)
- Modern developments in armor plate (light) and armor piercing ammunition. 17:(5)

#### ARMORED CARS

- The rôle of infantry. 14:(2)
- Heavy and light armored cars in reconnaissance. 30:(24)
- Modern mobile units. 30:(45) (52)
- The French maneuvers in the light of existing regulations. 30:(51)
- Poland: Police armored car. 45:(11)
- Modern developments in armor plate (light) and armor piercing ammunition. 17:(5)

#### ART OF WAR. STRATEGY

- Military inventions: their antiquity and influence on war. 10:(3)
- Mind and machine. Part I.—Tactical training in 1932. 10:(4)
- A vindication of force. 10:(7)
- The objective of war operations. 52:(1) (6)
- The permanent limitations of war. 9:(5)
- Man and matériel in future warfare. 30:(10)
- Modern leadership. 30:(15) (23)
- French thoughts on future warfare. 30:(75)
- Improved armies and warfare of matériel. 30:(83)
- War and the masters of social anarchy. 60:(10)
- Refutations of a new doctrine of war. 60:(17)
- Organic problems. 45:(12)
- Bridges and battles. 27:(2)
- Gas in New Delhi. 27:(5)
- Prince de Condé's system of battle. 52:(14)
- Xenophon and the art of war. 53:(1)
- Command of the sea or command of the air? [See Section 3]
- The foundations of the science of war. [See Section 4]
- War and western civilization. [See Section 4]

#### ARTILLERY

##### Command & Staff

- A critical analysis of methods of fire control with bilateral observation, and the use of graphical solutions. 13:(11)
- The graphics of fire control. 13:(12)
- On the fundamental of the principles of adjustment of fire. 46:(22)
- Artillery in the classical age. 9:(3)

##### Organization & Equipment

- German medieval artillery. 20:(3)
- Gun versus small arm. The story of an age-long rivalry, and its moral. 10:(10)
- Motorization of Field Artillery. 5:(4)
- Radio telephony and the artillery. 25:(1)
- The Italian artillery. 60:(21)
- Reorganization of the Swiss artillery. 60:(23)
- Organization of Battalion Headquarters Battery Divisional Field Artillery; its communication equipment and performance of liaison. 56:(6)
- Modern weapons for corps artillery. 47:(10)
- A great artillery battle, Castillon, 17 July 1453. 47:(12)
- A chart for general use in high-burst ranging. 47:(14)

##### Training Tactics

- Present German methods for the employment of artillery. Extracts from Colonel Bruchmüller's book: "Artillery in the offensive in position warfare." 13:(18)
- An exhaustive field artillery test. 9:(10)
- Employment of artillery of a mobile division. 30:(82)
- Cooperation of artillery and infantry. 30:(88)
- Preparatory lecture for the oral examination in artillery. 60:(12)
- What the infantry officer should know about artillery. 46:(6) (15)



Dangers in attachment of artillery. 30:(67)  
A great artillery battle, Castillon, 17 July 1453. 47:(12)

On the fundamental of the principles of adjustment of fire. 46:(22)

Map problem: A regiment of infantry in an attack against enemy outposts. The role of artillery. 13:(21)

Field artillery and the low-flying attack. 20:(2)

The start of the Meuse-Argonne campaign. 20:(4)

French artillery doctrine. 20:(5)

A new method of calculating coordinates. 47:(3)

Terrestrial observation for corps artillery. 13:(3)

(17)

Terrestrial observation for the artillery of a division. 13:(10)

A critical analysis of methods of fire control with bilateral observation, and the use of graphical solutions. 13:(11)

The graphics of fire control. 13:(12)

Practical means for improving liaison between the infantry and the artillery. 56:(2)

Artillery survey. 25:(2)

In the ranks of the Bengal Horse Artillery. 25:(4)

## ANTIAIRCRAFT ARTILLERY

Are we weakening? or Simplicity vs. accuracy. 19:(4)

Field training of the 61st Coast Artillery (AA). 19:(8)

Increasing the efficacy of antiaircraft fire directed by sound. 47:(8)

Command of antiaircraft artillery. 30:(90)

## AUSTRIA-HUNGARY (ARMY OF)

The development of the Austro-Hungarian defense in the first two years of war. 29:(3)

Summary of national defense. 29:(5)

## B

### BELGIUM (ARMY OF)

The influence of the Belgian theatre of operations during the period of the Battle of the Marne, September 1914. 13:(6)

The defense of Fort Pontisse. Pages from the history of the Belgian army during the World War of 1914-1918. 13:(7)

## C

### CANADA (ARMY OF)

Military education. 14:(6)

The cost of a new military coat: the fitting of the coat. 14:(10)

## CAVALRY

### Organization & Equipment

Caterpillar or Scorpion? 16:(3)

Essays on the organic cavalry of the larger units. 48:(4)

Mechanized cavalry and chemicals. 18:(1)

Modern mobile units. 30:(45) (52)

Motorization and cavalry in Poland. 30:(77)

Maintenance of a cavalry brigade with mechanized transport. 27:(8)

### Training Tactics

The cavalry in France: March-April, 1918. 16:(1)

An eye for a horse. 16:(2)

Cavalry battle honours. 16:(5)

The approach-march of the cavalry. 16:(4)

[See also: RCML No. 45, p. 41]

56th Cavalry Brigade field maneuvers, 1932. 15:(1)

Chemicals—for and against the cavalry. 15:(2)

Preserving combat effectiveness in the cavalry division—Exercise A, The Cavalry School, 1932-33. 15:(6)

The defense of the gap between Kluck and Bülow by the Cavalry Corps of Marwitz and Richthofen. 48:(1)

Means of instruction of the regiment. 48:(2)

Essays on the organic cavalry of the larger units. 48:(4)

March and maneuvers of the 3d Cavalry Division, 8-10 September 1932. 48:(5)

A practical example of close reconnaissance. 61:(1)

Cavalry tactics under Genghis Khan. 30:(30)

Premature employment of army reserve: Palestine, 1918. 30:(34)

Thoughts on modern equitation. 30:(59)

Employment of artillery of a mobile division. 30:(82)

Marches. 60:(16)

Reflections with reference to mounted instruction. 46:(17) (27)

The horse in the 1932 Olympiad. 15:(7)

First Signal Troop in the First Cavalry Division Maneuvers of 1932. 56:(5)

The defense of the Kluck-Bülow gap by the cavalry corps of Marwitz and Richthofen. 46:(29)

Exercise A, The Cavalry School, '32-33. 17:(6)

Rapid forced marches by cavalry. 17:(15)

## CHEMICAL WARFARE SERVICE

Chemicals—for and against the cavalry. 15:(2)

Should poison gas be legalized? 33:(15)

Medical and military notes. 32:(5)

Mechanized cavalry and chemicals. 18:(1)

The machine gunner and chemical warfare. 18:(2)

301st Chemical Regiment. 18:(3)

Psychological aspects of chemical warfare. 18:(4)

Bacterial warfare. 23:(3)

Gas proofing of tanks. 23:(14)

Chemical warfare. 8:(3)

Bacterial warfare. 32:(6)

The use of smoke in war. 61:(1)

The importance of incendiaries in aerial warfare. 30:(6)

Chemical agents of warfare. 31:(6)

Gas in New Delhi. 27:(5)

Bacterial warfare. 15:(9)

Aero-chemical warfare and civil populations. 46:(25)

The general conference on the limitation and reduction of armaments. Chemical, incendiary, and bacterial warfare. 13:(24)

Psychological aspects of Chemical Warfare. 17:(12)

## CHINA (ARMY OF)

The fighting value of the Chinese soldier. 8:(30)

## COAST ARTILLERY

Long range firings in Hawaii. 19:(1)

The target practice of Battery C, 91st C.A. (PS). 19:(2)

Coast Artillery mobility. 19:(9)

Coastal defense and aerial forces. 45:(4)

The defence of our coastal cities. 19:(12)

## COMMAND, STAFF & LOGISTICS

Age and over-age. 59:(3)

Economical organization. 30:(66)

The organization of the High Command. 60:(1)

Staff relations. 56:(7)

## CZECHOSLOVAKIA (ARMY OF)

National defense of Czechoslovakia. 59:(7)

(TO FIND ARTICLES.—The bold face figure 52:(1), is the index-number of the magazine. The next figure in parentheses (1) is the serial number of the article, as it appears within the magazine. To locate the desired magazine, see "Directory," page 5.)

## D

**DEMOLITIONS**

- Engineer's cartridge box. 52:(2)  
Demolitions, Fifth Army, 1918. 54:(2)

**DISARMAMENT**

- The realities of disarmament. 14:(9)  
The world disarmament conference. 86:(1)  
The Disarmament Conference. 26:(14)  
Opinion of Italo Balbo. 61:(5)  
The recommencement of the Disarmament Conference. 30:(14)  
The question of disarmament. 30:(26)  
The new British disarmament program. 30:(33)  
French overseas forces and disarmament. 30:(40)  
The coming negotiations at Geneva. 30:(92)  
Disarmament and minorities. 30:(93)  
The birthday of the Disarmament Conference. 30:(96)  
War and the masters of social anarchy. 60:(10)  
The Disarmament Conference at Geneva, 1932. 27:(1)  
Disarmament. 8:(33)  
Limitation of armaments. 33:(8)  
The general conference on the limitation and reduction of armaments. Chemical, incendiary, and bacterial warfare. 13:(24)

## E

**ECONOMICS**

- Europe: The world economic conference—A preliminary estimate. 0:(13) [WD]  
Necessary changes in our commercial policy. 85:(2)  
The tasks of the World Economic Conference. 15:(3)  
Our wheat surplus. 85:(6)  
The balance sheet of the Five Year Plan. 85:(7)  
The world situation to-day. 27:(3)  
Income tax information 5:(15)

**ENGINEERS****Command & Staff**

- Engineer intelligence. 26:(5)

**Organization & Equipment**

- Description of the Montes system bridge. 46:(4)

**Training Tactics**

- Engineer's cartridge box. 52:(2) (8)  
Development of Engineer officers. 4:(16)  
Theme and critique of a work of the engineering branch. 60:(5)  
Work of the pontooners. 46:(16)  
Demolitions, Fifth Army, 1918. 54:(2)  
The road problem of a force operating in undeveloped country. 54:(3)  
A field company in Burma. 54:(4)

**EQUITATION**

- An eye for a horse. 16:(2)  
Means of instruction of the regiment. 48:(2)  
The breeding of horses in Czechoslovakia and Switzerland. 48:(3)

## F

**FORTIFICATIONS (FIELD)**

- Marshal de Monluc. A defensive action. 52:(5) (11)

**FRANCE (ARMY OF)****Mobilization**

- The organization of nations for war. III. France: 61:(10)  
The French in Morocco. 30:(61)  
French Morocco. Stages and manner of its occupation. 45:(2)  
Territorial organization for national mobilization. 52:(13)  
Vital factors in World War. 17:(14)

**Organization & Equipment**

- Army reorganization in France. 8:(13)

The organization of nations for war. III. France. 61:(10)

- French overseas forces and disarmament. 30:(40)  
The French policy of material. 30:(68)  
Combat methods of a French infantry company. 30:(81)

France: Organization of communications and supply in armies. 45:(8)

**Training**

- French artillery doctrine. 20:(5)  
Means of instruction of the regiment. 48:(2)  
March and maneuvers of the 3d Cavalry Division, 8-10 September 1932. 48:(5)  
The great French maneuvers, September 1932. 30:(22)  
Notes on the Italian and French maneuvers of 1932. 30:(37)  
The French maneuvers in the light of existing regulations. 30:(51)  
The Parisian air exposition 1932. 30:(53)  
France. Aerial maneuvers. 45:(5)  
Some precepts from the new manual of the mountain and the military alpinist of the French army. 45:(15)  
Officers' libraries. 52:(15)

**FRANCE (NAVY OF)**

- French naval airship service. 8:(29)

## G

**GENGHIS KHAN (1164-1227)**

- Jenghiz Khan: The last campaign. 14:(5)  
Cavalry tactics under Genghis Khan. 30:(30)

**GEOGRAPHY (MILITARY)**

- The defence of the British Empire, with special reference to the Far East and Australia. 10:(1)  
Life in Mindanao. 23:(9)  
The political frontiers of Finland. 61:(3)  
The railways of Manchuria. 31:(1)  
The Great Wall. 31:(4)  
The St. Lawrence waterway. 31:(8)  
French Morocco. Stages and manner of its occupation. 45:(2)  
The Strait of Gibraltar. The principal episodes of an historical tragedy. 60:(22)  
Geographical-statistical universal atlas, 1930-31. [See Section 4]

**GERMANY (ARMY OF)****Command & Staff**

- The right of Germany to adjust her national defense to accord with the general armament situation. 30:(1)  
National defense. 30:(47)  
To the Army. 30:(95)  
Modern leadership. 30:(15) (23)  
Count von Schlieffen as teacher and guide. 59:(9)  
German military power since Versailles. 85:(5)  
Germany as a battleground. 8:(32)

**Mobilization**

- Territorial organization for national mobilization. 52:(13)  
Vital factors in World War. 17:(14)

**Organization & Equipment**

- German medieval artillery. 20:(3)  
The German Asiatic Corps. 30:(4)  
The German Army 1932. 30:(63)  
The Medical Service of America, England, and France. 30:(84)  
Germany: New organization of German infantry. 51:(3)

**Training**

- Tactical exercise No. 1. 30:(7) (13) (21) (50)  
Organization of military sports. 30:(11)  
Self-training in military preparedness. 30:(12)  
The history of military training of youth. 30:(18)  
Tactical exercise No. 2. 30:(27) (31) (38) (44) (50)

Tactical exercise No. 3. **30**:(57) (65) (73) (79)

(86)  
From the workshop of the troops: Again small caliber firing. **30**:(64)

Tactical exercise No. 4. **30**:(94) (104)

The combat adjutant. **30**:(97)

Training of youth. **30**:(98)

Self criticism. **30**:(99)

Youth and age. **30**:(100)

A chapter of modern soldier training. **30**:(55)

Germany: The maneuver of the Oder. **45**:(16)

The air war and the home territory of Germany. **19**:(10)

## GREAT BRITAIN (ARMY OF)

### Command & Staff

Military inventions: their antiquity and influence on war. **10**:(3)

Mind and machine. Part I.—Tactical training in 1932. **10**:(4)

### Mobilization

The defence of the British Empire, with special reference to the Far East and Australia. **10**:(1)

The work of the British Army in the Far East. **26**:(2)

Vital factors in World War. **17**:(14)

The organization and training of the Territorial Army. **19**:(3)

### Organization & Equipment

The promotion problem: a suggested solution. **10**:(5)

Ford cars in the Libyan Desert. **55**:(2)

The Medical Service of America, England and France. **30**:(84)

England: A searchlight airplane spotter. **45**:(9)

Badges. **27**:(10)

England: Armament of the infantry platoon. **51**:(4)

### Training

Mind and machine. Part I.—Tactical training in 1932. **10**:(4)

Maneuvers of the British tank brigade. **9**:(7)

Impressions of collective training, Aldershot, 1932. **27**:(7)

England's work on infantry-tank liaison. **51**:(11)

"The grasshoppers and the oaks." **26**:(4)

## GREAT BRITAIN (NAVY OF)

New warship contracts. **8**:(4)

Nelson's example. **8**:(6)

Flying boat or aircraft-carrier? **8**:(9)

Obsolete vessels. **8**:(12)

The auxiliary patrol in war. **26**:(1)

Food supply and mobility in the navy. **26**:(6)

Gunnery and the naval battle. **26**:(11)

Air attack on warships. **8**:(22)

The naval programme. **8**:(28)

The 1932 Scandinavian cruise. **53**:(2)

Tigris gunboats. [See Section 4]

## H

### HISTORY

1813. A campaign with improvised armies. **59**:(1)

International debts and territory. **9**:(13)

The world situation to-day. **27**:(3)

### Africa (South)

The native problem in South Africa. **26**:(12)

### Arabia (Wahabita)

The Wahabita movement. **61**:(4)

### Argentina

General Paz in the organization and the direction of the defense in the siege of Montevideo. **46**:(8) (19)

## Belgium

A forgotten centenary: The ten-day campaign of 1831. **13**:(2)

## Bolivia

The Gran Chaco War. **8**:(1)

Other wars. **8**:(11)

The War in the Chaco. **82**:(1)

South American republics at war. **82**:(2)

## Central America

Union or disunion in Central America? **85**:(9)

## China

China: The Chinese domestic situation—its brighter side. **0**:(9) [WD]

Chinese public opinion. **85**:(8)

## Colombia

Latin America: Colombia-Peru: Leticia incident. **0**:(18) [WD]

## Cuba

Cuba: Political situation in Cuba. **0**:(6) [WD]

## Czechoslovakia

Europe: The Little Entente. **0**:(14) [WD]

## Egypt

Lord Allenby in Egypt. **8**:(17)

## Europe

Dwindling population in Europe. **30**:(32)

Europe: The world economic conference—A preliminary estimate. **0**:(13) [WD]

Europe: The Little Entente. **0**:(14) [WD]

## Finland

The political frontiers of Finland. **61**:(3)

## France

Baron de Tott, a French artilleryman at Constantinople in the 18th century. **47**:(2) (6)

The death of General Herr. **47**:(4)

Government and national defense. **52**:(4) (9)

Marshal de Monluc. A defensive action. **52**:(5) (11)

The organization of nations for war. III. France. **61**:(10)

France: Recent cabinet crises. **0**:(10) [WD]

The French in Morocco. **30**:(61)

French Morocco. Stages and manner of its occupation. **45**:(2)

## Germany

Germany: The trend of Germany's post-war government. **0**:(2) [WD]

Germany then and now. Parallels and contrasts between 1806-1814 and 1919-1932. **8**:(14) (18) (21) (25) (31)

Germany: Hitler's chancellorship brings new period of political uncertainty. **0**:(11) [WD]

Status of the civil service. **30**:(19)

From Scharnhorst to Schlieffen. **30**:(43)

The right of enemy troops to traverse German territory. **30**:(80)

Danzig and the Polish problem. **93**:(3)

The battle at Fraustadt on 13 February 1706.

A Cannae on German territory. **59**:(11)

Poland's so-called Corridor. **85**:(4)

Germany: Reichstag and other elections strengthen Hitler's power. **0**:(17) [WD]

## Great Britain

Some little known British commanders of the past. **16**:(3)

British Empire: The outlook for 1933. **0**:(1) [WD]

The rebellion in Cyprus, 1931. **10**:(6)

British Empire: Anglo-Persian relations. **0**:(8) [WD]

The Iron Duke versus Corporal John. **27**:(6)

Sir William Robertson. **8**:(24)

(TO FIND ARTICLES.—The bold face figure **52**:(1), is the index-number of the magazine. The next figure in parentheses (1) is the serial number of the article, as it appears within the magazine. To locate the desired magazine, see "Directory," page 5.)

One dab of whitewash for Nelson. 33:(3)  
Major-General Charles Gordon. 54:(1)

### Hungary

The Italian-Hungarian friendship. 61:(7)

### Italy

Opinion of Italo Balbo. 61:(5)  
The Italian-Hungarian friendship. 61:(7)  
The Italo-Turkish friendship. 61:(9)

### Japan

Japanese suggestions rejected. 8:(16)  
Japan: The League of Nations condemns Japan. 0:(15) [WD]

### Mexico

The Punitive Expedition. 40:(2)

### Morocco

The French in Morocco. 30:(61)  
French Morocco. Stages and manner of its occupation. 45:(2)

### Nicaragua

Nicaragua: Internal and international situation. 0:(12) [WD]  
The Marines return from Nicaragua. 28:(3)  
The second Nicaraguan campaign. 28:(5)  
"War in Nicaragua." 28:(7)

### Paraguay

The Gran Chaco War. 8:(1)  
Other wars. 8:(11)  
The War in the Chaco. 82:(1)  
South American republics at war. 82:(2)

### Peru

Latin America: Colombia-Peru: Leticia incident. 0:(12) [WD]

### Philippine Islands

The American stake in the Philippines. 85:(10)  
Philippine independence. 8:(23)

### Poland

Danzig and the Polish problem. 93:(3)  
Poland's so-called Corridor. 85:(4)

### Rumania

Europe: The Little Entente. 0:(14) [WD]

### Russia

Russia to-day. 8:(7)  
Soviet Russia: The darker side of the Soviet picture. 0:(7) [WD]  
The balance sheet of the Five Year Plan. 85:(7)

### Spain

Spain: The second year of the Republic. 0:(5) [WD]  
The Strait of Gibraltar. The principal episodes of an historical tragedy. 60:(22)

### Turkey

The Italo-Turkish friendship. 61:(9)

### United States

American military history. 32:(8)  
Nicaragua: Internal and international situation. 0:(12) [WD]  
The American stake in the Philippines. 85:(10)  
Philippine independence. 8:(23)  
To the shores of Tripoli. 33:(26)  
Military history foundation. 5:(38)  
America faces the future. [See Section 4]

### Yugoslavia

Yugoslavia: Internal and international political situation. 0:(4) [WD]  
Europe: The Little Entente. 0:(14) [WD]

## INDIAN ARMY

Badges. 27:(10)

## INDUSTRIAL MOBILIZATION

The munitions picture in detail. 9:(8)  
Industrial mobilization. 30:(72)

## INFANTRY

### Command & Staff

The rôle of infantry. 14:(2)  
The rôle of infantry. 14:(11)

### Organization & Equipment

Gun versus small arm. The story of an age-long rivalry, and its moral. 10:(10)  
Motors and infantry. 23:(2)  
Experimental rolling kitchen. 23:(15)  
Army shoulder rifle. 5:(21)  
Infantry re-organization. 26:(7)  
The Oerlikon heavy 2 cm automatic rifle. 30:(35)  
Fire support and fire fight of the composite group. 30:(36)  
Dangers in attachment of artillery. 30:(67)  
Combat methods of a French infantry company. 30:(81)  
A case of motor ataxia. 24:(4)  
The effectiveness of the rifle. 30:(56)  
Infantry questions. 46:(3) (14) (21)  
Switzerland: The Oerlikon 20-mm. automatic gun. 47:(15)  
Germany: New organization of German infantry. 51:(3)  
England: Armament of the infantry platoon. 51:(4)  
United States: Infantry organization. 51:(5)  
Sweden: New infantry organization. 51:(6)

### Training Tactics

Halts in foot marches. 10:(9)  
Practical means for improving liaison between the infantry and the artillery. 56:(2)  
Infantry in battle. 23:(5)  
Making combat practice more realistic and interesting. 23:(6)  
Khan Dhu. 23:(8)  
Tentative infantry drill regulations, 1932. 23:(12)  
New infantry drill. 5:(7)  
A map problem. A regiment of infantry in an attack against an enemy outpost position. 13:(16)  
Attack of a battalion in mountainous terrain. 61:(8)  
More infantry. 30:(28)  
Cooperation of artillery and infantry. 30:(88)  
Infantry in battle—Orders. 24:(1)  
Infantry in battle—The Plan. 24:(2)  
Infantry problems. 24:(3)  
Tank problems. 24:(6)  
Message center operations. 24:(7)  
Brigade problem. 24:(8)  
Personal initiative of riflemen in combat. 30:(41)  
A chapter of modern soldier training. 30:(55)  
What the infantry officer should know about artillery. 46:(6) (15)  
Study on the organization, installation and action of fire support in the offensive combat of the battalion. 46:(9)  
Dangers in attachment of artillery. 30:(67)  
Map problem: A regiment of infantry in an attack against enemy outposts. The rôle of artillery. 13:(21)  
Some details concerning the instruction of a rifle company. 13:(22)  
Infantry manual. 13:(25)  
Defensive fire. 51:(11)  
England's work on infantry-tank liaison. 51:(11)

## INTELLIGENCE

Publicity and propaganda. 28:(10)

## INTERNATIONAL RELATIONS

The Far Eastern problem. 93:(1)  
Intergovernmental debts. 93:(2)  
The influence of the control of international communications on the conduct of war. 56:(1)  
The League and Manchuria. 8:(10)  
An embargo on arms. 9:(9)  
Yugoslavia: Internal and international political situation. 0:(4) [WD]  
British Empire: Anglo-Persian relations. 0:(8) [WD]

Nicaragua: Internal and international situation. 0:(12) [WD]  
 The battle for equality. 30:(58)  
 Survey of national defense. 30:(74)  
 Danzig and the Polish problem. 93:(3)  
 Japan: The League of Nations condemns Japan. 0:(15) [WD]  
 Bases of American foreign policy during the past four years. 85:(1)  
 The arms embargo. 8:(27)  
 The price of peace. 33:(6)  
 Vital factors in World War. 17:(14)

# ITALY (ARMY OF)

Questions of organization and equipment in the Italian Army. 59:(2)  
 Libyan Desert campaign. 40:(5)  
 Wire communications in certain situations. 61:(2)  
 Military tournament. 61:(14)  
 Glider school. 61:(15)  
 Notes on the Italian and French maneuvers of 1932. 30:(37)  
 Employment of artillery of a mobile division. 30:(82)  
 Italy: The great military maneuvers of 1932. 45:(10)  
 The great maneuvers of the Italian Army. 60:(18)  
 The Italian artillery. 60:(21)  
 Aircraft and antiaircraft. The great aerial maneuvers in Italy. 46:(28)  
 Review of General Caraciacolo's book, "Italy and her Allies during the Great War." 61:(12)  
 Vital factors in World War. 17:(14)

# ITALY (NAVY OF)

The great naval maneuvers. 61:(6)  
 Naval artillery. 61:(13)

# JAPAN (ARMY OF)

The Japanese Army. 8:(2)  
 The Japanese Army. 26:(13)  
 The Japanese Army. 17:(9)  
 Vital factors in World War. 17:(14)

# JAPAN (NAVY OF)

Great Britain: The Japanese naval proposals. 33:(24)

JOFFRE, Marshal Joseph Jacques Cesaire (1852-1931)

The war memories of Marshal Joffre. 10:(2)  
 Joffre's Führung 1915-1916. 30:(87)

# JOINT OPERATIONS

Army and Navy at the conquest of the Baltic Islands in October, 1917. 10:(12)  
 A naval expedition involving the landing of a marine expeditionary force. 28:(4)  
 Coastal defense and aerial forces. 45:(4)  
 The conquest of the Baltic Islands. 33:(7)  
 Tigris gunboats. [See Section 4]  
 Army and Navy in the conquest of the Baltic Islands in October 1917. [See Section 4]

# L

# LARGE UNITS, TACTICAL FUNCTIONS

Essays on the organic cavalry of the larger units. 48:(4)  
 The objective of war operations. 52:(1) (6)  
 Engineer's cartridge box. 52:(2) (8)  
 A practical example of close reconnaissance. 61:(11)  
 Frontages. 30:(3)  
 The combat group Schimpf at Louvain. 30:(54)  
 Modern mobile units. 30:(45) (52)  
 Dangers in attachment of artillery. 30:(67)

Maneuver on a flank. 52:(7) (12)  
 The motorized brigade. 17:(2)  
 How do you figure? 17:(10)  
 The defense of the gap between Kluck and Bülow by the Cavalry Corps of Marwitz and Richthofen. 48:(1)  
 Modern weapons for corps artillery. 47:(10)  
 The defense of the Kluck-Bülow gap by the cavalry corps of Marwitz and Richthofen. 46:(29)

# LAW, MILITARY & INTERNATIONAL

The real conflict at Shanghai: International law vs. tactics. 15:(5)  
 Japan: The Manchurian question at Geneva. 0:(3) [WD]  
 The rebellion in Cyprus, 1931. 10:(6)  
 The right of enemy troops to traverse German territory. 30:(80)  
 The early development of the law of contraband of war. 102:(1)

# LYTTON REPORT

The Far Eastern problem. 93:(1)  
 Japanese suggestions rejected. 8:(16)

# M

# MACHINE GUNS

Machine gun evolution. 14:(12)  
 The machine gunner and chemical warfare. 18:(2)  
 Quick training in the heavy machine gun. 30:(16) (25)  
 Fire support and fire fight of the composite group. 30:(36)  
 Machine guns as antiaircraft weapons. 30:(49)  
 From the workshop of the troops: Firing of heavy machine gun platoon. 30:(103)

# MANEUVERS, etc.

56th Cavalry Brigade field maneuvers, 1932. 15:(1)  
 March and maneuvers of the 3d Cavalry Division, 8-10 September 1932. 48:(5)  
 Mind and machine. Part I.—Tactical training in 1932. 10:(4)  
 Maneuvers to illustrate passive defense against air attack, held at Pas-de-Calais. 13:(4)  
 Maneuvers of the British tank brigade. 9:(7)  
 The great naval maneuvers. 61:(6)  
 The great French maneuvers, September 1932. 30:(22)  
 Notes on the Italian and French maneuvers of 1932. 30:(37)  
 The French maneuvers in the light of existing regulations. 30:(51)  
 France. Aerial maneuvers. 45:(5)  
 Italy: The great military maneuvers of 1932. 45:(10)  
 Germany: The maneuver of the Oder. 45:(16)  
 The great maneuvers of the Italian Army. 60:(18)  
 Impressions of collective training, Aldershot, 1932. 27:(7)  
 First Signal Troop in the First Cavalry Division Maneuvers of 1932. 56:(5)  
 Aircraft and antiaircraft. The great aerial maneuvers in Italy. 46:(28)  
 Sweden: New infantry organization. 51:(6)  
 The Navy Pacific maneuvers. 17:(8)

# MARINE CORPS

Supervising Nicaraguan elections, 1928. 33:(10)  
 The American Marines—today and tomorrow. 4:(11)  
 Will destroy Marine Corps. 5:(2)  
 Marine Corps must not perish. 5:(10)  
 Franklin Delano Roosevelt. 28:(1)  
 The Presidents and the Marines. 28:(2)  
 The Marines return from Nicaragua. 28:(3)  
 The second Nicaraguan campaign. 28:(5)

(TO FIND ARTICLES.—The bold face figure 52:(1), is the index-number of the magazine. The next figure in parentheses (1) is the serial number of the article, as it appears within the magazine. To locate the desired magazine, see "Directory," page 5.)

- The Quartermaster's Department. 28:(6)  
The civic obligation of a military organization. 28:(8)  
The annual bombing and gunnery matches. 28:(9)  
The U.S. Navy—The U.S. Marine Corps. 4:(25)

## MECHANIZATION

- Mind and machine. Part I.—Tactical training in 1932. 10:(4)  
The use of the machine in battle. 9:(2)  
Maneuvers of the British tank brigade. 9:(7)  
Two experimental machines. 26:(9)  
Mechanization. 8:(20)  
Mechanization and motorization. 30:(71)  
Employment of artillery of a mobile division. 30:(82)  
Maintenance of a cavalry brigade with mechanized transport. 27:(8)  
Motorization in the army of the future. [See Section 4]

## MEDICAL SERVICE

- The medical activities of the Panama Canal. 32:(1)  
What a dental officer ought to know when entering the service. 32:(2)  
The Medical Service in the War of 1812. 32:(3)  
(9)  
The United States government medical services. 32:(4)  
Medical and military notes. 32:(5)  
Bacterial warfare. 32:(6)  
Health conditions in the Philippine Islands. 32:(7)  
War Department Notes: Health of the Army for the calendar year 1932 in the United States. 32:(10)  
The Medical Service of America, England and France. 30:(84)  
The importance of medical organizations in campaign. 60:(15)  
Doctors and soldiers. 46:(23)  
Military medicine men. 17:(13)  
Psychology—III. Character and the daily life. 53:(7)

## MEXICO (ARMY OF)

- The organization of the High Command. 60:(1)  
The Superior School of War establishes a course of imperious necessity. 60:(7)  
Lectures on style. 60:(8)  
Ethics and the Army. 60:(13)

## MOTORIZATION

- Caterpillar or Scorpion? 15:(8)  
Success in war. 14:(3)  
Motors and infantry. 23:(2)  
Motorization of Field Artillery. 5:(4)  
The use of the machine in battle. 9:(2)  
Two experimental machines. 26:(9)  
The training of the mechanical transport driver. 26:(10)  
The French maneuvers in the light of existing regulations. 30:(51)  
Mechanization and motorization. 30:(71)  
Motorization and cavalry in Poland. 30:(77)  
Employment of artillery of a mobile division. 30:(82)  
A case of motor ataxia. 24:(4)  
From my observation post in Paris: Motorization. 46:(7) (18) (26)  
Convoy operations. 19:(11)  
Army vehicles. 4:(28)  
The motorized brigade. 17:(2)  
Motorization in the army of the future. [See Section 4]

## NAVAL WARFARE

- The earliest naval operations. 33:(11)  
Army and Navy at the conquest of the Baltic Islands in October, 1917. 10:(12)  
Command of the sea or command of the air? [See Section 3]

## O

### ORDNANCE SERVICE

- Army shoulder rifle. 5:(21)  
Self-propelled projectiles. 47:(7)  
Denmark: The Madsen projectile. 47:(9)  
Ordnance reminiscences. 9:(1)  
Armor versus bullets. 9:(4)  
The ballistic efficiency of guns. 9:(6)  
Doctor Gerlich's achievement. 9:(11)  
The question of bomb diving. 30:(29)  
The Oerlikon heavy 2 cm automatic rifle. 30:(35)  
The effectiveness of the rifle. 30:(56)  
The life of firearms barrels. 48:(11)  
The Browning light machine gun. 15:(10)  
Army vehicles. 4:(27)  
Modern weapons for corps artillery. 47:(10)  
Switzerland: The Oerlikon 20-mm. automatic gun. 47:(15)  
Modern developments in armor plate (light) and armor piercing ammunition. 17:(5)  
The Ordnance record for 1932. 17:(7)

### OVERSEAS EXPEDITIONS

- Army and Navy at the conquest of the Baltic Islands in October, 1917. 10:(12)  
The German Asiatic Corps. 30:(4)  
The conquest of the Baltic Islands. 33:(7)  
Army and navy in the conquest of the Baltic Islands in October 1917. [See Section 4]

## P

### PERU (ARMY OF)

- Notes on the Escuela Superior de Guerre of Lima. 45:(14)

### PHILIPPINE ISLANDS

- Health conditions in the Philippine Islands. 32:(7)

### POLAND (ARMY OF)

- Polish signal troops. 30:(70)  
Motorization and cavalry in Poland. 30:(77)  
Poland: Police armored car. 45:(11)

## Q

### QUARTERMASTER SERVICE

- The military quartermaster service and its participation in the colonial exposition of Vincennes. 60:(8)  
General lines for the formation of the plan of instruction of the Quartermaster School. 60:(11)  
Convocation of the Quartermaster School. 60:(24)

## R

### RUSSIA (ARMY OF)

- The collapse of the Russian Army according to Trotsky. 10:(8)  
The Russian Army as I have seen it. 45:(1)  
Russia: Russian contingents. 45:(12)  
Russia: The air forces of Soviet Russia. 0:(16)  
[WD]  
Russian ideas on the use of modern tanks. 51:(9)

## S

### SCHLIEFFEN, Count Alfred von (1833-1913)

- The personality of Count von Schlieffen. 59:(7)  
Count von Schlieffen and the World War. 59:(8)  
Count von Schlieffen as teacher and guide. 59:(9)  
Count von Schlieffen and abroad. 59:(10)

### SIGNAL SERVICE

- The Signal Corps photographic laboratory. 15:(7)  
The influence of the control of international communications on the conduct of war. 56:(1)  
New telephone switchboards. 56:(3)  
Pigeons. 56:(4)  
Flying radio equipment. 4:(14)



Radio telephony and the artillery. 25:(1)  
Wire communications in certain situations. 61:(2)  
Radio communication of the artillery (corps and division). 61:(12)  
Polish signal troops. 30:(70)  
Signal Corps pigeons. 31:(2)  
Message center operations. 24:(7)  
What is the service of (signal) communications? 60:(4)  
Organization of the service of operative communications. 46:(5) (13) (21)  
The applications of meteorology in the military arts. 46:(10)  
First Signal Troop in the First Cavalry Division Maneuvers of 1932. 56:(5)  
Development of wire-laying equipment. 56:(8)  
Contributions of the Signal Corps to science. 4:(27)

#### SPAIN (ARMY OF)

Spain: The aerial problem in its defensive aspect. 45:(6)  
Spain: Moral liaison and rolling barrage. 45:(7)

#### SUPPLY

From the diary of a supply officer. 59:(5)  
Supply: The color of military clothing. 13:(13)  
Paper. 40:(1)  
Experimental rolling kitchen. 23:(15)  
Food supply and mobility in the navy. 26:(6)  
From the workshop of the troops: Draft horses. 30:(20)  
France: Organization of communications and supply in armies. 45:(8)  
Our wheat surplus. 85:(6)

#### SWITZERLAND (ARMY OF)

The Oerlikon heavy 2 cm automatic rifle. 30:(35)  
Reorganization of the Swiss artillery. 60:(23)  
Switzerland: The Oerlikon 20-mm. automatic gun. 47:(15)  
Sweden: New infantry organization. 51:(6)

### T

#### TACTICS OPERATIONS

##### General topics

A study on the Austro-Hungarian concentration in the World War. 29:(1)  
Mind and machine. Part I.—Tactical training in 1932. 10:(4)  
The rebellion in Cyprus, 1931. 10:(6)  
Halts in foot marches. 10:(9)  
Terrestrial observation for corps artillery. 13:(3) (17)  
Terrestrial observation for the artillery of a division. 13:(10)  
A critical analysis of methods of fire control with bilateral observation, and the use of graphical solutions. 13:(11)  
The graphics of fire control. 13:(12)  
Practical means for improving liaison between the infantry and the artillery. 56:(2)  
A map problem. A regiment of infantry in an attack against an enemy outpost position. 13:(16)  
The use of machine gun in battle. 9:(2)  
The use of smoke in war. 61:(1)  
Frontages. 30:(3)  
More infantry. 30:(28)  
Concentrations and first operations of the French Army in the World War. 30:(39) (46)  
Personal initiative of riflemen in combat. 30:(41)  
The combat group Schimpf at Louvain. 30:(54)  
French thoughts on future warfare. 30:(75)  
The grid system on modern military maps. 30:(78)  
Infantry problems. 24:(3)  
Camouflage. 45:(3)

Theme and critique of a work of the engineering branch. 60:(5)  
Applied and formal tactical problem. 46:(2)  
What the infantry officer should know about artillery. 46:(6) (15)  
Tactics of large aircraft forces. 33:(28)  
Demolitions, Fifth Army, 1918. 54:(2)  
The road problem of a force operating in undeveloped country. 54:(3)  
On the fundamental of the principles of adjustment of fire. 46:(22)  
Pages from the history of the Belgian Army during the War, 1914-1918. Raids on the "Adrianople" and "Ouvrage 33" trenches, 28 October 1917. 13:(19)  
Map problem: A regiment of infantry in an attack against enemy outposts. The role of artillery. 13:(21)

##### Defensive combat

Maneuvers to illustrate passive defense against air attack, held at Pas-de-Calais. 13:(4)  
Defense during retreat and delaying action. 13:(8) (14) (20)  
Attack versus defence—A French view. 8:(5) (18)  
Marshal de Monluc. A defensive action. 52:(5) (11)  
Withdrawal. 30:(8)  
Withdrawal and morale. 30:(48)  
Combat methods of a French infantry company. 30:(81)  
Coastal defense and aerial forces. 45:(4)  
The defence of our coastal cities. 19:(12)  
Demolitions, Fifth Army, 1918. 54:(2)  
Terrestrial means of antiaircraft defense. 46:(20)  
Defensive fire. 51:(1)  
Delaying actions. 13:(1)

##### Offensive combat

Present German methods for the employment of artillery. Extracts from Colonel Bruchmüller's book: "Artillery in the offensive in position warfare." 13:(18)  
Attack versus defence—A French view. 8:(5) (18)  
Tactical exercise No. 1. 30:(7) (13) (21) (50)  
The combat group Schimpf at Louvain. 30:(54)  
Combat methods of a French infantry company. 30:(81)  
Pursuit. 30:(89)  
Infantry in battle—The Plan. 24:(2)  
Brigade problem. 24:(8)  
Advance out of Belleau Woods and capture of Belleau by the Third Battalion 104th Infantry July 18, 1918. 24:(9)  
Study on the organization, installation and action of fire support in the offensive combat of the battalion. 46:(9)  
Map problem: A regiment of infantry in an attack against enemy outposts. The role of artillery. 13:(21)  
The 5th Brandebourg Division at the village of Douaumont, February-March 1916. 51:(2) (10)  
Maneuver on a flank. 52:(7) (12)  
Prince de Condé's system of battle. 52:(14)  
Premature employment of army reserve: Palestine, 1918. 30:(34)

##### Reconnaissance

Possible results had modern air reconnaissance existed in 1914. 26:(3)  
A practical example of close reconnaissance. 61:(11)  
Experiences of a Cyclist Company Commander in the field. 30:(9)  
Heavy and light armored cars in reconnaissance. 30:(24)

##### Special warfare

Bacterial warfare. 23:(3)  
The fight for Hartmannswillerkopf. 52:(3) (10)

(TO FIND ARTICLES.—The bold face figure 52:(1), is the index-number of the magazine. The next figure in parentheses (1) is the serial number of the article, as it appears within the magazine. To locate the desired magazine, see "Directory," page 5.)



## TANKS-US

- Ford cars in the Libyan Desert. 55:(2)
- Attack of a battalion in mountainous terrain. 61:(8)
- Some precepts from the new manual of the mountain and the military alpinist of the French Army. 45:(15)
- Passing it on. [See Section 4]

### Troop movements

- March and maneuvers of the 3d Cavalry Division, 8-10 September 1932. 48:(5)
- Halts in foot marches. 10:(9)
- March security. 13:(5)
- Engineer's cartridge box. 52:(2) (8)
- Marches. 60:(16)
- Exercise A, The Cavalry School, '32-33. 17:(6)
- Rapid forced marches by cavalry. 17:(15)
- Antiaircraft march-distances. 30:(62)

## TANKS

- Caterpillar or Scorpion? 15:(3)
- The rôle of infantry. 14:(2)
- The thrust towards Cambrai. 55:(1)
- Mind and machine. Part I.—Tactical training in 1932. 10:(4)
- Magnetic compass for tanks. 23:(13)
- Gas proofing of tanks. 23:(14)
- Maneuvers of the British tank brigade. 9:(7)
- The Oerlikon heavy 2 cm automatic rifle. 30:(35)
- The French maneuvers in the light of existing regulations. 30:(51)
- The tanks are coming. 24:(5)
- Tank problems. 24:(6)
- A Cambrai myth? 55:(3)
- Switzerland: The Oerlikon 20-mm. automatic gun. 47:(15)
- The first battle of Renault tanks in May-June 1918. 51:(7)
- Russian ideas on the use of modern tanks. 51:(9)
- England's work on infantry-tank liaison. 51:(11)
- Possibilities of the tank. 17:(3)
- Caterpillar or Scorpion? 17:(4)
- Modern developments in armor plate (light) and armor piercing ammunition. 17:(5)
- How do you figure? 17:(10)

## TRANSPORTATION

- Ford cars in the Libyan Desert. 55:(2)
- A case of motor ataxia. 24:(4)
- Organization of the service of operative communications. 46:(5) (13) (21)
- Maintenance of a cavalry brigade with mechanized transport. 27:(8)
- The inland water transport in Mesopotamia. [See Section 4]

## U

## UNITED STATES (ARMY OF)

### Command & Staff

- Committee cuts army estimates by \$4,651,253. 4:(2)
- House adds pay cuts to army supply bill. 4:(3)
- Nation demands defeat of anti-service efforts. 4:(6)
- Army-Navy cooperation. 4:(7)
- Shannon Committee urges Munitions Department. 4:(8)
- Senate group rejects pay cutting provisos. 4:(9)
- Service amendments voted in economy bill. 4:(10)
- Efficiency reports. 23:(1)
- Consider economy provisions. 4:(12)
- Controversial service items up to conferees. 4:(13)
- Army appropriation bill. 5:(4)
- Seventeenth military power. 5:(1)
- Army pay reduction. 5:(5)
- Army appropriation bill. 5:(6)
- Denounces Taber and Connery amendments. 5:(9)
- Plans for new War and Navy Departments made public. 5:(11)
- Shannon Committee Report. 5:(12)
- Changes in economy law. 5:(13)

- Army appropriation bill. 5:(14)
- The economy measure. 5:(16) (24)
- Army appropriation bill. 5:(18)
- U.S.A. defence estimates. 8:(15)
- The army and citizenship. 9:(12)
- Economy bill may go over to next Congress. 4:(15)
- Economy bill passes continuing pay cuts. 4:(18)
- The economy measure. 5:(27)
- Army appropriation bill. 5:(29)
- The economy act. 4:(21)
- President asks power to make pay slashes. 4:(22)
- Army appropriation act. 5:(32)
- Economy law. 5:(33)
- New pay cut system effective on April 1. 4:(23)
- The United States Army. 4:(24)
- Views of Director of Budget. 5:(35)
- Reduction of expenditures. 5:(36)
- The pay reduction. 5:(39)
- Changes in economy law. 5:(40)
- Efficiency reports. 15:(8)
- The third line of defense. 19:(13)
- Comptroller begins pay interpretations. 4:(26)
- Beer and wine. 5:(41)
- War Department Notes: Health of the Army for the calendar year 1932 in the United States. 32:(10)
- Foreign service tours. 5:(34)
- Army at World's Fair. 5:(37)
- Income tax information. 5:(15)

### Mobilization

- The munitions picture in detail. 9:(8)
- Vital factors in World War. 17:(14)

### Organization & Equipment

- The Medical Service of America, England and France. 30:(84)
- United States: Infantry organization. 51:(5)

### Training Tactics

- Putting punch into the C.M.T.C. campaign. 23:(4)
- Making combat practice more realistic and interesting. 23:(6)
- The reserve officer in the Canal Zone. 23:(7)
- Life in Mindanao. 23:(9)
- The third line of defense. 23:(10)
- Cost of the National Guard. 23:(16)
- Reserve Notes. 23:(17)
- Service in the tropics. 5:(26)
- Command and General Staff class. 4:(19)
- The Army Industrial College. 31:(7)
- American military history. 31:(9)
- The Regular Army. 31:(10)
- The National Guard. 31:(11)
- The horse in the 1932 Olympiad. 15:(7)
- Efficiency reports. 15:(8)

## UNITED STATES (NAVY OF)

- Tactics and command. 33:(9)
- How we got our navy. 33:(12)
- Our naval policy. 33:(14)
- Vessels under construction, United States Navy—progress as of September 30, 1932. 33:(16)
- Technique of organization. 33:(19)
- The Navy: its contact with Congress. 33:(20)
- The state of the navy. 33:(22)
- New cruiser design. 33:(23)
- Gambling in national defense securities. 4:(1)
- Industrial management and central planning in U.S. Navy Yards. 4:(5)
- Army-Navy cooperation. 4:(7)
- The Navy ration. 5:(8)
- Plans for new War and Navy Departments made public. 5:(11)
- Five per cent reduction. 5:(17)
- Decadence of the Navy. 5:(22)
- Navy building data. 5:(23)
- The rôle of naval airships. 26:(8)
- Naval appropriation bill. 5:(25)
- Report on Navy bill. 4:(17)
- Naval appropriation bill. 5:(28)
- USS Detroit awarded honors in 1932 SRBP. 4:(20)

The U.S. Navy—The U.S. Marine Corps. 4:(25)  
 The defence of our coastal cities. 19:(12)  
 The restless Pacific. 8:(34)  
 Organization of naval forces. 5:(42)  
 The annual naval appropriation bill. 33:(2)  
 The training of officers. 33:(4)  
 A naval war game and a formula. 33:(5)  
 To the shores of Tripoli. 33:(26)  
 Equalization: The muddle—and a remedy. 33:(27)  
 Building an effective naval reserve. 33:(29)  
 The Navy Pacific maneuvers. 17:(8)

# W WARS ANCIENT

Artillery in the classical age. 9:(3)  
 A great artillery battle, Castillon, 17 July 1453. 47:(12)  
 Xenophon and the art of war. 53:(1)

# AFRICA

# EGYPT

# British Operations (1882)

Major-General Charles George Gordon. 54:(1)

# ASIA

# CHINA

# British and French Expedition (1860)

Major-General Charles George Gordon. 54:(1)

# INDIA

# 1897-1898

The Tirah campaign 1897-98. A retrospect. 14:(7)

# JAPAN-CHINA (1931-1933)

The real conflict at Shanghai: International law vs. tactics. 15:(5)  
 Deciding the Shanghai War. 33:(17)  
 The League and Manchuria. 14:(1)  
 Soviet Russia, China and outer Mongolia. 14:(4)  
 The Lytton Report. 14:(8)  
 The battle for Manchuria. 29:(4)  
 American policy toward the Sino-Japanese dispute. 86:(2)  
 Japan: The Manchurian question at Geneva. 0:(3) [WD]

American newspapers comment on Japanese-Chinese relations in Asia. 4:(4)  
 The Far Eastern problem. 93:(1)  
 Manchuria. 8:(8)  
 The League and Manchuria. 8:(10)  
 Japanese suggestions rejected. 8:(16)  
 The work of the British Army in the Far East. 26:(2)

The railways of Manchuria. 31:(1)

The Great Wall. 31:(4)

The Sino-Japanese conflict. 60:(14)

The new imperialism in Eastern Asia. 29:(9)

The Japanese offensive. 8:(26)

The indefinite status of Shanghai. 33:(1)

Prologue in Manchuria. 33:(25)

# MONGOL CAMPAIGNS (13th Century)

Jenghiz Khan: The last campaign. 14:(5)

# EUROPE

# 16th CENTURY

Marshal de Monluc. A defensive action. 52:(5)  
 (11)

# 17th CENTURY

Prince de Condé's system of battle. 52:(14)

# 18th CENTURY

# Seven Years' War (1756-1763)

Cavalry battle honors. 16:(5)

# NAPOLEONIC WARS (1795-1815)

The puzzle of Waterloo: Why did Napoleon lose the battle? 59:(6)  
 Jomini. 23:(11)

# FRANCE-GERMANY (1870-71)

Government and national defense. 52:(4) (9)  
 Extracts from "The Conduct of War," by Marshal Ferdinand Foch. I. The Battle of Spicheren. 25:(3)

# 19th CENTURY

A forgotten century: The ten-day campaign of 1831. 13:(2)  
 One hundred years ago. French intervention in Belgium, 1832. 47:(13)

# SOUTH AMERICA

The Gran Chaco War. 8:(1)  
 Other wars. 8:(11)  
 The War in the Chaco. 82:(1)  
 South American republics at war. 82:(2)  
 Latin America: Colombia-Peru: Leticia incident. 0:(18) [WD]

# UNITED STATES

# INDIAN CAMPAIGNS

# Later 19th Century (1865-1901)

The affair at Wounded Knee. 40:(4)

# WAR OF 1812 (1812-1814)

The Medical Service in the War of 1812. 32:(3)  
 (9)  
 The Battle of Fredericksburg. 31:(5)

# MEXICAN OPERATIONS (1912-1917)

Information relative to the siege of Naco. 60:(2)

# Punitive Expedition (1916)

The Punitive Expedition. 40:(2)

# SPANISH-AMERICAN WAR (1898)

Rolling along with Reilly. 20:(1)

# WORLD WAR (1914-1918)

# E—General Military History

Vital factors in World War. 15:(4)  
 In the wake of war. 33:(18)  
 The 24th of February 1916 at Verdun: as viewed from the French side. 59:(4)  
 A study on the Austro-Hungarian concentration in the World War. 29:(1)  
 The development of the Austro-Hungarian defense in the first two years of war. 29:(3)  
 The thrust towards Cambrai. 55:(1)  
 The war memories of Marshal Joffre. 10:(2)  
 The collapse of the Russian Army according to Trotsky. 10:(8)  
 The influence of the Belgian theatre of operations during the period of the Battle of the Marne, September 1914. 13:(6)  
 The defense of Fort Pontisse. Pages from the history of the Belgian army during the World War of 1914-1918. 13:(7)  
 Intergovernmental debts. 93:(2)  
 Possible results had modern air reconnaissance existed in 1914. 26:(3)  
 Our only guilt. 30:(2)  
 Premature employment of army reserve: Palestine, 1918. 30:(34)  
 Concentrations and first operations of the French Army in the World War. 30:(39) (46)  
 The combat group Schimpf at Louvain. 30:(54)  
 The blood test. 30:(60)  
 Joffre's leadership 1915-1916. 30:(87)

(TO FIND ARTICLES.—The bold face figure 52:(1), is the index-number of the magazine. The next figure in parentheses (1) is the serial number of the article, as it appears within the magazine. To locate the desired magazine, see "Directory," page 5.)

## WOR WAR

- Why the victors do not pay their war debts. 30:(91)  
 Generals of the Great War: Douglas Haig. 45:(13)  
 The participation of the United States in the Great War. 60:(9) (19)  
 Organization of the service of operative communications. 46:(5) (13) (21)  
 The personality of Count von Schlieffen. 59:(7)  
 Count von Schlieffen and the World War. 59:(8)  
 Count von Schlieffen as teacher and guide. 59:(9)  
 Count von Schlieffen and abroad. 59:(10)  
 The world situation to-day. 27:(3)  
 Sir William Robertson. 8:(24)  
 The air war and the home territory of Germany. 19:(10)  
 War experiences, 1914-1917. [See Section 4]  
 Eyewitness. [See Section 4]

### F—Zone of Interior

- Before the Mixed Claims Commission. 31:(3)

### J—Campaigns and battles

#### African Area

- The holy war of the Senoussiya. 52:(16)

#### Asiatic Area—Turkish Theater

##### Egyptian Front

- Lord Allenby in Egypt. 8:(17)

##### Mesopotamian Front

- The German Asiatic Corps. 30:(4)  
 Kut-el-Amara. War experiences in Asia Minor. [See Section 4]  
 The inland water transport in Mesopotamia. [See Section 4]  
 Tigris gunboats. [See Section 4]

##### Palestine Front

- Premature employment of army reserve: Palestine, 1918. 30:(34)

#### European Area—Italian Theater

- Operations on the Italian front, during the year 1915. 13:(9)  
 Review of General Caracciolo's book, "Italy and her Allies during the Great War." 51:(12)

#### European Area—Russian Theater

- Brussilov and his riders in June 1916. 29:(2)  
 Engineer's cartridge box. 52:(2)  
 The campaigns on the Russian front, 1914-1918. (23)  
 The Battle of Galicia, in August 1914. 13:(15)

- The Russian plan of campaign in the World War, 1914, according to Colonel Nikolaieff. 60:(20)  
 The battles of the Masurian Lakes. 27:(4)

#### European Area—Western Theater

1914

- The Marne maneuver. 47:(1) (5) (11)  
 The defense of the gap between Kluck and Bülow

by the Cavalry Corps of Marwitz and Richthofen. 48:(1)

The diary of Gallieni. 10:(11)

The defense of Fort Pontisse. Pages from the history of the Belgian army during the World War of 1914-1918. 13:(7)

Engineer's cartridge box. 52:(2)

The combat group Schimpf at Louvain. 30:(54)  
 Dangers in attachment of artillery. 30:(67)

Dramatization of the Battle of the Marne, 1914. 30:(101)

The defense of the Kluck-Bülow gap by the cavalry corps of Marwitz and Richthofen. 46:(29)

Through the gap of Belfort to Mulhouse (August 1914). [See Section 4]

The X Corps at the battle of Charleroi, 21, 22, 23 August 1914. [See Section 4]

1915

The fight for Hartmannswillerkopf. 52:(3) (10)

Engineer's cartridge box. 52:(2)

1916

The 24th of February 1916 at Verdun: as viewed from the French side. 59:(4)

The 5th Brandebourg Division at the village of Douaumont, February-March 1916. 51:(2) (10)

1917

A Cambrai myth? 55:(3)

Pages from the history of the Belgian Army during the War, 1914-1918. Raids on the "Adri-nople" and "Ouvrage 33" trenches, 28 October 1917. 13:(19)

1918

The cavalry in France: March-April, 1918. 16:(1)

The approach-march of the cavalry. 16:(4)

The start of the Meuse-Argonne campaign. 20:(4)

Engineer's cartridge box. 52:(2) (8)

Advance out of Belleau Woods and capture of Belleau by the Third Battalion 104th Infantry, July 18, 1918. 24:(9)

Demolitions, Fifth Army, 1918. 54:(2)

The first battle of Renault tanks in May-June 1918. 51:(7)

Eye-witness accounts. 51:(8)

The objective of war operations. 52:(1) (6)

The 9th Division in 1918. Tactical study. [See Section 4]

### L—Naval history

The suicide squadron. 33:(13)

Puleston, Churchill, and the Dardanelles. 33:(21)

The conquest of the Baltic Islands. 33:(7)

Army and Navy at the conquest of the Baltic Islands in October, 1917. 10:(12)

Scapa flow. 33:(31)

The concise story of the Dover Patrol. [See Section 4]

Army and navy in the conquest of the Baltic Islands in October 1917. [See Section 4]